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DRAFT ENVIRONMENTAL IMPACT REPORT

BOSTON WATERFRONT HOTEL

PREPARED FOR THE

BOSTON REDEVELOPMENT AUTHORITY

AND

BOSTON WATERFRONT HOTEL ASSOCIATES

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ENVIRONMENTAL CONSULTANTS

DRAFT ENVIRONMENTAL IMPACT REPORT

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PREPARED FOR THE

BOSTON REDEVELOPMENT AUTHORITY

AND

BOSTON WATERFRONT HOTEL ASSOCIATES

BY

CLM/SYSTEMS, INC.
292 MAIN ST.
CAMBRIDGE, MASS.
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PART I

ENVIRONMENTAL ASSESSMENT FORM

PREFACE

The Environmental Assessment Form was submitted to the Executive Office of Environmental Affairs on January 15, 1974. From the information on the form it was determined that the project will not cause significant environmental damage and that no further report will be filed. This determination was supported by the fact that the proposal was in conformance with the urban renewal plan.

During the course of preliminary design several issues were raised on the architectural massing of the hotel by the Boston Redevelopment Authority and local citizen groups. The developer later recommended that a full Environmental Impact Report be prepared.

ENVIRONMENTAL ASSESSMENT FORM

This form is provided to assist you in determining whether a proposed project could cause significant environmental damage and thus require an environmental impact report.

EXECUTIVE OFFICE City of Boston DEPARTMENT Boston Redevelopment Auth.

DIVISION OTHER

PROJECT IDENTIFICATION Long Wharf at State Street, Parcel A-7 Downtown Waterfront-Faneuil Hall Urban Renewal Area

PREDICTED DATES: Commencement Spring 1974 Completion Spring 1976

PROJECTED COST $12,500,000

I. Background Information

1. Give a brief description of the proposed projects(s), and describe how your agency is involved in the project.

   The project is located in the downtown waterfront section of Boston, Massachusetts, on Long Wharf at State Street and Atlantic Avenue. The project consists of construction of a seven-story executive hotel having approximately 325 rooms with interior parking for 50 cars on a site of about 55,600 square feet.

   The site which is designated as Parcel A-7 is in the Downtown Waterfront-Faneuil Hall Urban Renewal Area and was acquired by the Boston Redevelopment Authority under the urban renewal program. The project is being developed by a private developer in accordance with the objectives and controls of the urban renewal plan.

2. Describe the geographical area or areas which will be affected by the project(s), including distinguishing natural and man-made characteristics, and a brief description of the present use of the area or areas.

   The site on Long Wharf is bounded by Commercial Wharf on the north and Central Wharf, the location of the new aquarium on the south. Prior to the demolition of buildings now completed by the Authority, a powerhouse and transformer building, ten-story office and commercial structure, and cold storage warehouse were located on the parcel. A small section of the site extends into Atlantic Avenue. The Authority is presently completing plans for the discontinuance and relocation of the Avenue as part of its program of project improvements.

II. Assessment of Environmental Damage

Answer the following questions by placing a check in the appropriate space; consider both short and long term damage. Wherever "No" is checked, indicate on the lines below the question why there will be no significant damage.

	Short Term		Long Term	
	Yes	No	Yes	No
1. Could the project(s) affect the use of a recreational area or area of important aesthetic value?		x		x
No recreational or aesthetic areas on site or nearby.				
2. Are any of the natural or man-made features in affected area(s) unique; that is, not found in other parts of the Commonwealth or nation?		x		x
No unique features on site or nearby.				
3. Could the project(s) affect an historical or archaeological structure or site?		x		x
No historical or archaelogical structure or site will be affected.				
4. Could the project(s) affect the potential use, extraction, or conservation of a scarce natural resource?		x		x
No scarce natural resource on site or utilized.				
5. Does the project(s) area serve as a habitat, food source, nesting place, source of water, etc. for rare or endangered wildlife or fish species?		x		x
No wildlife or fish on site or nearby.				
6. Could the project(s) affect fish, wildlife, or plant life?		x		x
No fish, wildlife or plant life on site or nearby.				

	Term		Term	
	Yes	No	Yes	No
7. Are there any rare or endangered plant species in the affected area(s)? No plant species on the site or nearby.		x		x
8. Could the project(s) change existing features of any of the Commonwealth's fresh or salt waters or wetlands? No change in existing features of fresh or salt waters or wetlands.		x		x
9. Could the project(s) change existing features of any of the Commonwealth's beaches? No beaches on the site or nearby.		x		x
10. Could the project(s) result in the elimination of land presently utilized for agricultural purposes? No land utilized for agricultural purposes on the site or nearby.		x		x
11. Will the project(s) require a variance from, or result in a violation of, any statute, ordinance, by-law, regulation or standard, the major purpose of which is to prevent or minimize damage to the environment? No variance from or violation of any environmental requirements is anticipated.		x		x
12. Will the project(s) require certification, authorization or issuance of a permit by any local, state or federal environmental control agency? Project is presently being processed for Special Environmental Clearance by U.S. Department of Housing and Urban Development.		x		x

	Short Term Yes	Short Term No	Long Term Yes	Long Term No
13. Will the project(s) involve the application, use or disposal of potentially hazardous materials? No hazardous materials involved.		x		x
14. Will the project(s) involve construction of facilities in a flood plain? Site is not in a flood plain.		x		x
15. Could the project(s) result in the generation of significant amounts of noise? No significant amounts of noise upon completion of project. Insignificant construction noise will be generated over a short period.		x		x
16. Could the project(s) result in the generation of significant amounts of dust? No generation of dust upon completion of project. Construction dust potential minimal.		x		x
17. Will the project(s) involve the burning of brush, trees, construction materials, etc.? No burning of materials involved.		x		x
18. Could the project(s) result in a deleterious effect on the quality of any portion of the state's air or water resources? (If yes, indicate whether surface, ground water, offshore) No adverse effect on water resources. Insignificant indirect effect on air quality from traffic due to increased density.		x		x

	Short Term		Long Term	
	Yes	No	Yes	No
19. Could the project(s) affect an area of important scenic value?		x		x
No. Proposed development on site of ten story warehouse and powerhouse structure now removed, will improve scenic value.				
20. Will the project result in any form of environmental damage not included in the above questions?		x		x
No other known adverse effects.				

III. Statement of No Significant Environmental Effects

A "yes" answer to any of the questions in Section II indicates that the project may cause significant environmental damage, and that an EIR will probably be required. If you have answered "yes" to one or more of the questions, but still think the project will cause no significant environmental damage, indicate your reasons below.

IV. Conclusions

Place a check in the appropriate box.

1. (X) It has been determined that the project will not cause significant environmental damage. No further reports will be filed.

2. ( ) It has been determined that the project may cause significant environmental damage. A draft environmental impact report will be submitted on ____________________(approximate date).

The draft report will be:

3. ( ) Standard   4. ( ) Extensive   5. ( ) Combined

6. Joint, in participation with ______________________________, with ______________________________ designated as the lead agency.

Signature of Preparing Officer Robert T

Title Director

Address Boston Redevelopment Authority

Telephone 722-4300

PART II

SUMMARY

SUMMARY

Boston Waterfront Hotel

Parcel A-7 situated within the Downtown Waterfront-Faneuil Hall Urban Renewal Area at the base of Long Wharf shall be expanded to include all of Parcel A-6 adjacent to the west. A hotel building of not more than 395 rooms and associated facilities will be developed on the expanded Parcel A-7. On-site parking will be provided for not more than 225 cars.

The hotel building will be developed by the Boston Waterfront Hotel Associates. This Environmental Impact Report was prepared for the developer by CLM/ Systems, Inc. Environmental Consultants. The Draft Environmental Impact Report was submitted to the Boston Redevelopment Authority on June 13, 1975.

Major Benefits, Costs and Environmental Impacts

The development of expanded Parcel A-7 will constitute fulfillment of this portion of the Downtown Waterfront-Faneuil Hall Urban Renewal Plan. A vacant and blighted portion of the waterfront will be replaced by an active land use that will generate commercial and social activity. The hotel will draw people to the waterfront reinforcing other residential and commercial land uses nearby. It will provide much needed hotel, restaurant and recreational services for this area of the downtown and the city as a whole. The form of the building, which evolved from a continuous series of reviews by the BRA and local citizens, will complement the aesthetic character of the neighborhood.

The cost for construction of the Boston Waterfront Hotel will be approximately $15,000,000 and will be drawn from labor, materials, supplies and equipment.

The Environmental impacts associated with the hotel occur in both the short and long term. Noise levels will be increased temporarily in the immediate vicinity of the project during the period of construction. In the long term the

hotel, which is situated among four landmark districts, will affect visual characteristics within the waterfront area. The project will place increased demand on utilities, energy and police and fire services. To the extent that the project contributes to an increase in vehicular traffic, it will contribute to an increase in potential vehicular emissions and noise levels.

PART III

DESCRIPTION OF THE PROJECT

III. DESCRIPTION OF THE PROJECT

The project identified as Boston Waterfront Hotel consists of the redevelopment of two urban renewal parcels and the construction of a hotel building of not more than 395 rooms and associated facilities to be built in Boston, Massachusetts by a private developer. The site, expanded Parcel A-7 being composed of Parcels A-6 and A-7 in the Downtown Waterfront-Faneuil Hall Urban Renewal Plan, has an area of 117,175 square feet. The site is located at the base of Long Wharf which is also occupied by two buildings which are listed in the National Register of Historic Places. On-site parking for not more than 225 cars will be provided; approximately 50 below the building on the expanded portion of the parcel and approximately 175 below Parcel A-7 utilizing part of an existing concrete mat. The facility is served by public transportation, a subway station being located adjacent to the site.

The project will be developed in accordance with the Downtown Waterfront-Faneuil Hall Urban Renewal Plan adopted by the Boston Redevelopment Authority.

The owner and developer of the project is Boston Waterfront Hotel Associates whose principal offices are located at 141 Milk Street, Boston, Massachusetts. The location of the site within the urban renewal project is shown on Exhibits 1 and 2. The location of the site within the urban renewal area is shown on Exhibit 3. Exhibit 4 is a site plan of the hotel parcels. The architectural massing of the building is shown on Exhibits 5 and 6.

The form of the building is defined by a high-rise section approximately 135 feet in height, a medium-rise section approximately 90 feet in height and a low-rise section not to exceed 57.4 feet in

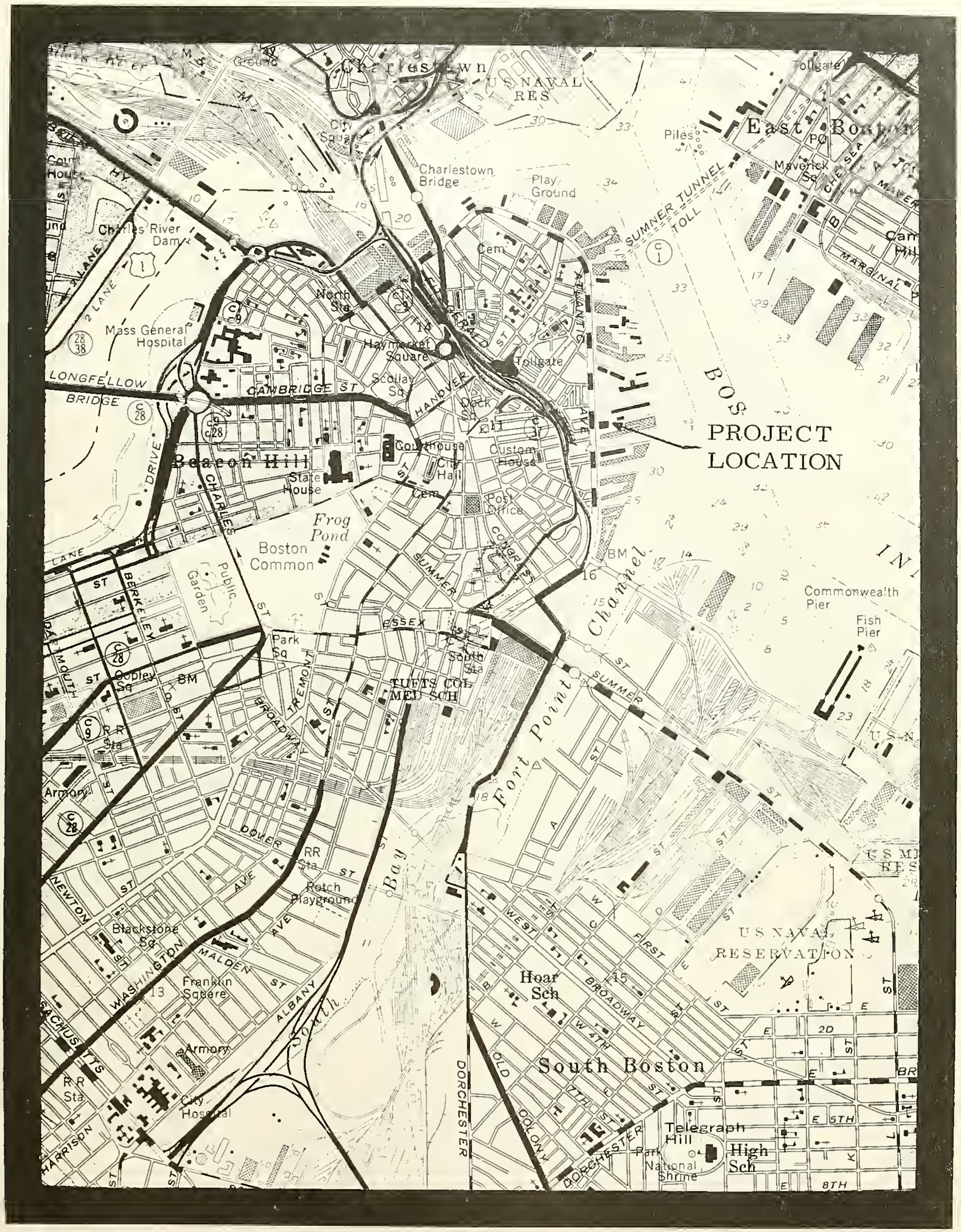


EXHIBIT 1
General Location Map
Source: USGS

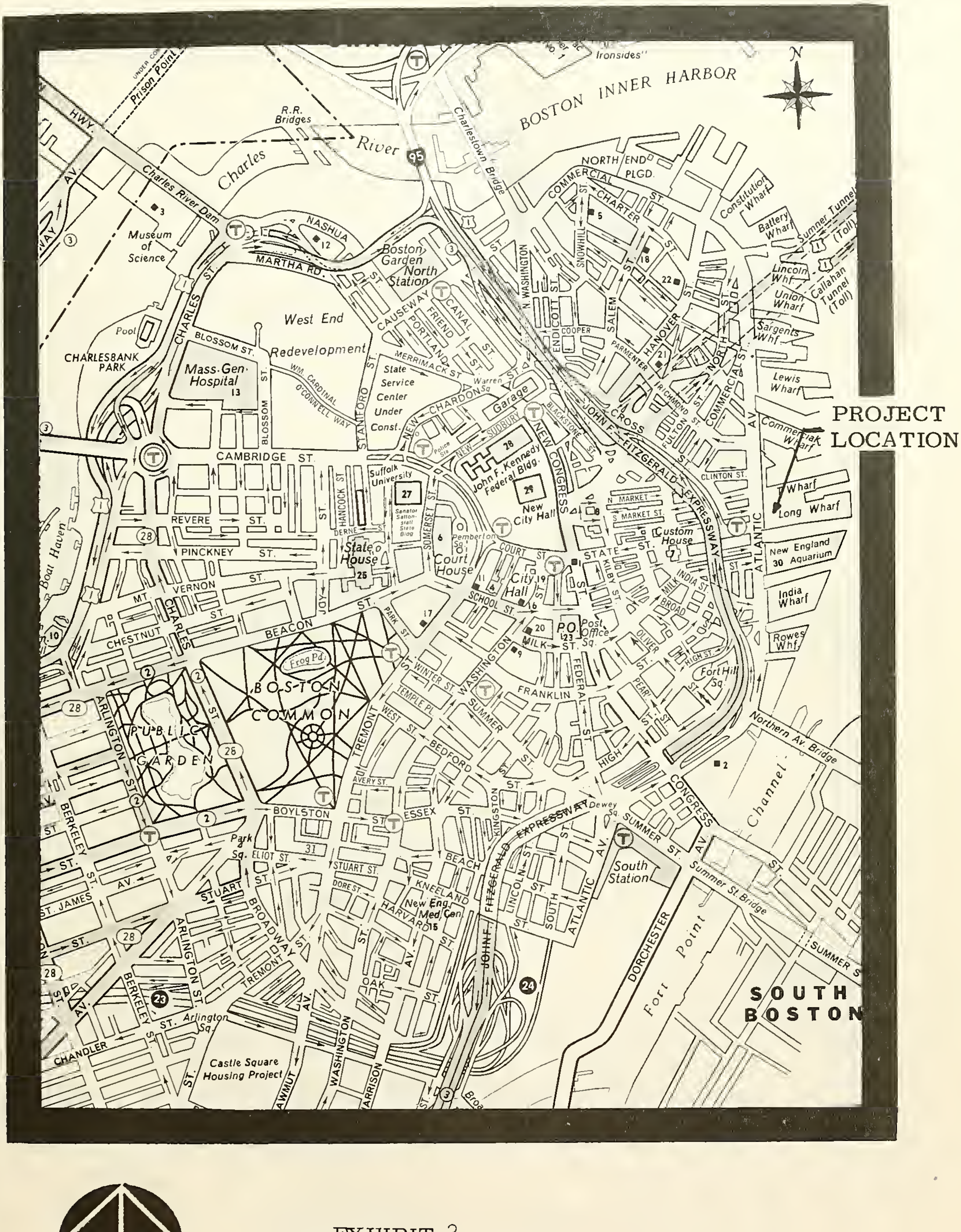


EXHIBIT 2
Project Location Map
Source - MDPW

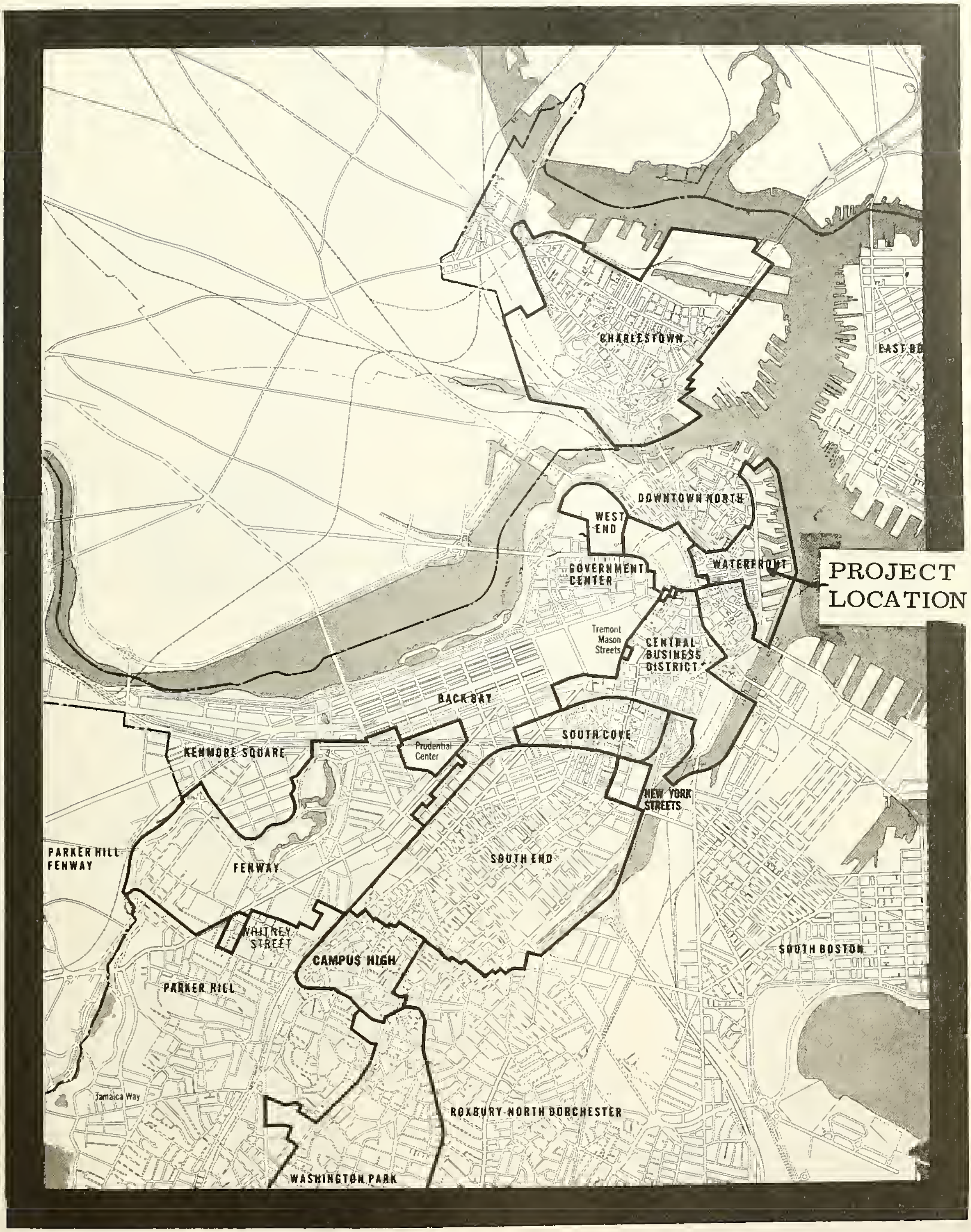


EXHIBIT 3
Urban Renewal Plan Areas
Source: BRA

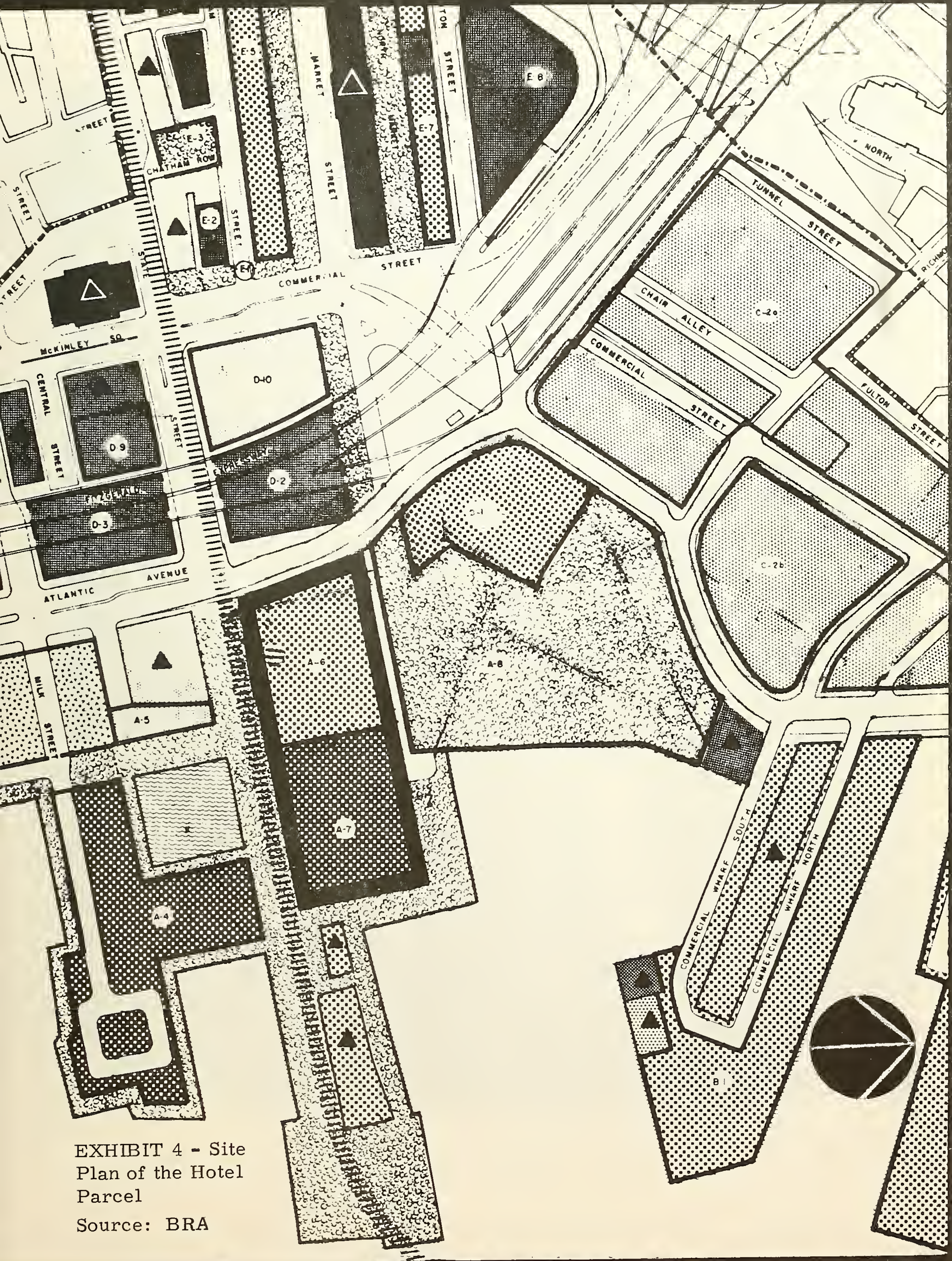


EXHIBIT 4 - Site Plan of the Hotel Parcel

Source: BRA

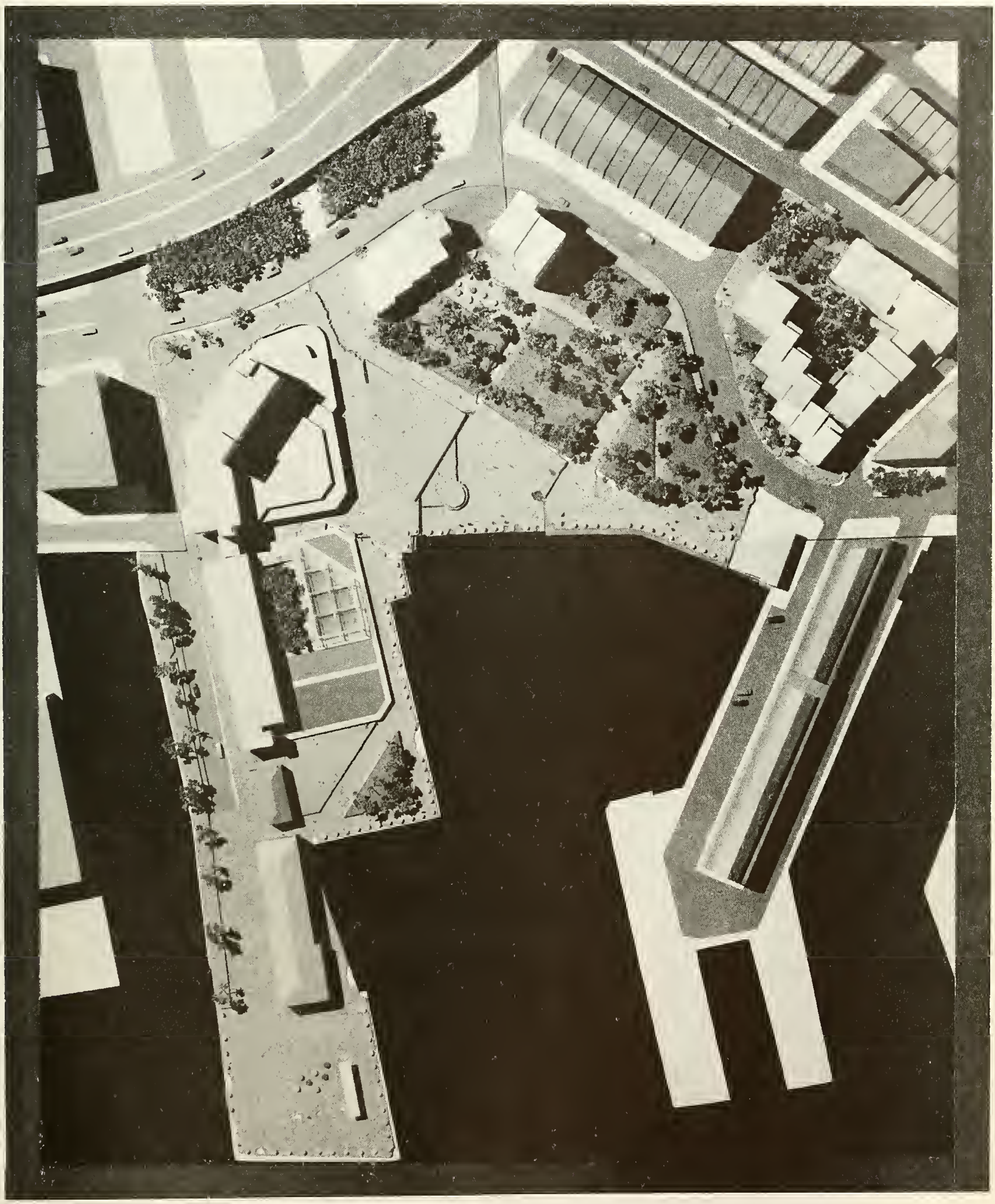


EXHIBIT 5 - Architectural Massing of Hotel

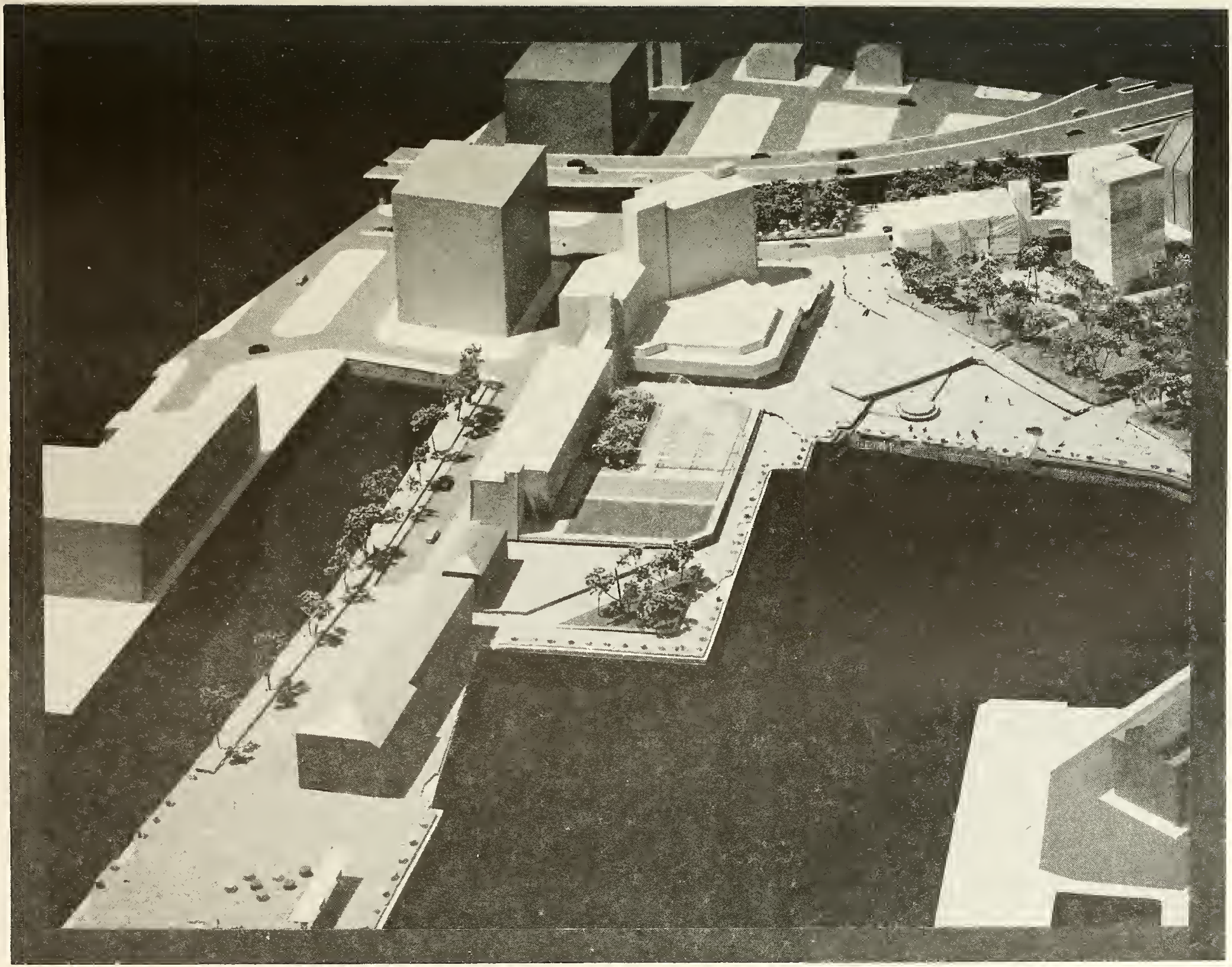


EXHIBIT 6 - Architectural Massing of Hotel

height. Approximately 225 parking spaces will be provided underground on expanded Parcel A-7. In addition, a 1550 car garage is located nearby to accommodate residual parking. Support facilities for the hotel will be housed under and behind the high and medium rise portions of the building. These include a restaurant with an approximate seating capacity of 150, a ballroom with an approximate capacity of 500, a coffee shop of approximately 200 seats, a bar of approximately 80 seats, a cocktail lounge of approximately 150 seats and six function rooms having a combined capacity of approximately 300. A platform for delivery services will be located at the northwest corner of the building and will be partially enclosed and covered. Open land remaining on the site will be devoted to transparent covered indoor and outdoor restaurant service and recreational use. Exhibit 7 is a land use plan of the project site.

BOSTON WATERFRONT HOTEL

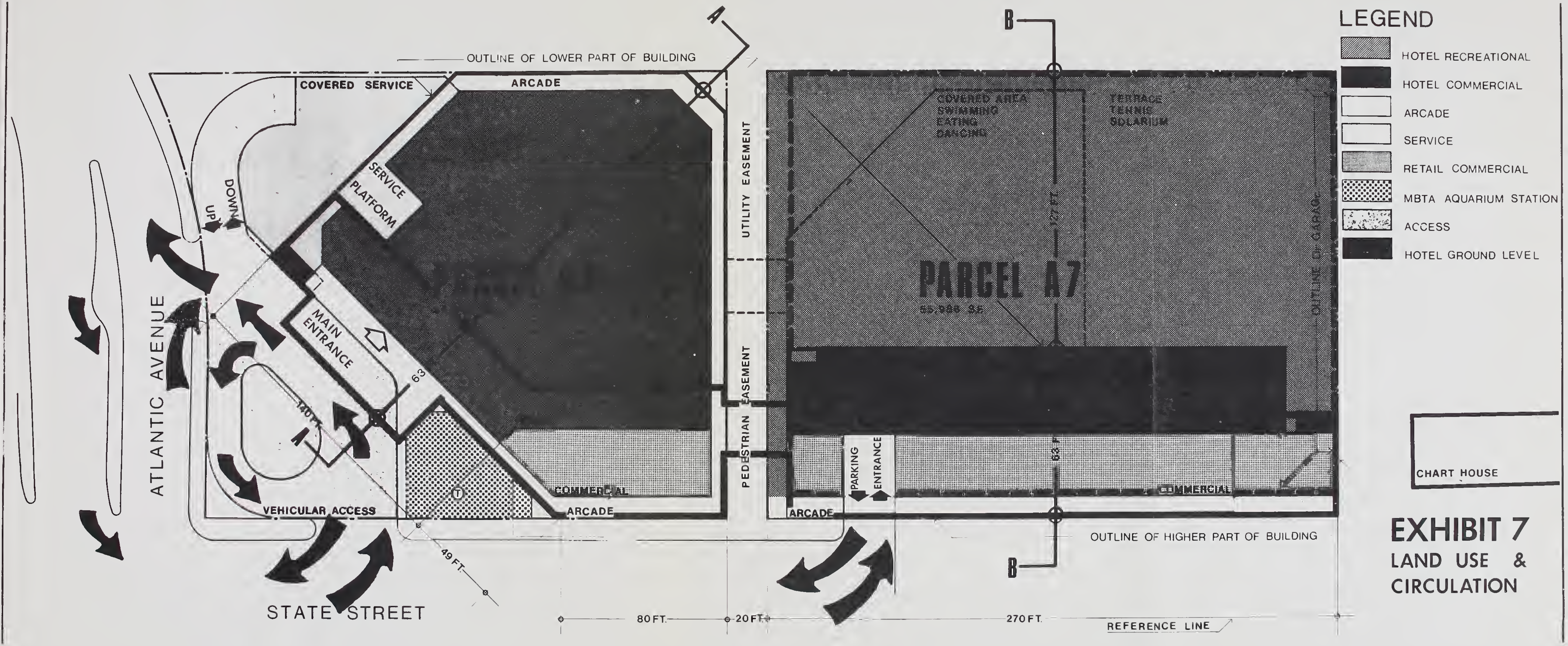


EXHIBIT 7
LAND USE & CIRCULATION

The principal objectives of the development are to accommodate the city-wide and area requirements for hotel space with associated restaurant and recreational facilities, and to meet the objectives of the urban renewal plan. The objective of the urban renewal plan for this parcel is to implement a development of compatible land use and building design with nearby historic landmark districts.

There are a number of important benefits to be gained by development of the proposed hotel. First, development of expanded Parcel A-7 will constitute fulfillment of this portion of the Downtown Waterfront-Faneuil Hall Urban Renewal Plan. The hotel will draw people to the waterfront reinforcing desirable residential and commercial land uses nearby. It will generate commercial and social activity in an area best suited for redevelopment and will improve a vacant and blighted parcel. Other benefits of the project will accrue to the employment sector. Construction jobs will be created during the development phase and long-term employment will follow for hotel workers and service personnel.

Construction of the building is scheduled to start in the third quarter of 1975 and should be completed in the second quarter of 1977.

PART IV

DESCRIPTION OF EXISTING ENVIRONMENT OF THE SITE AND AREA

IV. DESCRIPTION OF EXISTING ENVIRONMENT OF THE SITE AND AREA

1. Physical Environment

The existing physical environment of the site and area was created by man through successive phases of topographic alteration. Originally, the natural shore line was located along the eastern portion of Dock Square and the parcel under analysis was covered by the water of Boston Harbor. In 1710, Long Wharf was constructed as an extension to State Street. From the shoreline, Long Wharf projected far into the Harbor. Its original length requirements were dictated by the requirements of large ocean-going sailing vessels. During the early colonial period, Long Wharf served as the major loading and unloading facility for trade to Boston and the New World.

As land area requirements became more important, the original shore line was extended to the east. By 1855, the shoreline was situated at the point where it lies today. The site was previously occupied by an eleven story warehouse building shown on Exhibit 8. The warehouse building was approximately 370,000 square feet of building area. It was demolished in accordance with the Downtown Waterfront-Faneuil Hall Urban Renewal Plan to provide for hotel development. Exhibits 9 and 10 show the site as it exists today.

a. Land and Climate

Expanded Parcel A-7 consists of 117,175 square feet of land and is located at the base of Long Wharf near the shoreline and Atlantic Avenue. The topography is flat. The subsurface is composed typically of bedrock at an elevation of minus 80' overlain by layers of compact glacial till, Boston Blue Clay, organic silts and man placed fill. An existing concrete mat measuring approximately 155' X 125' is located at the northeast portion of the site. Below the concrete mat

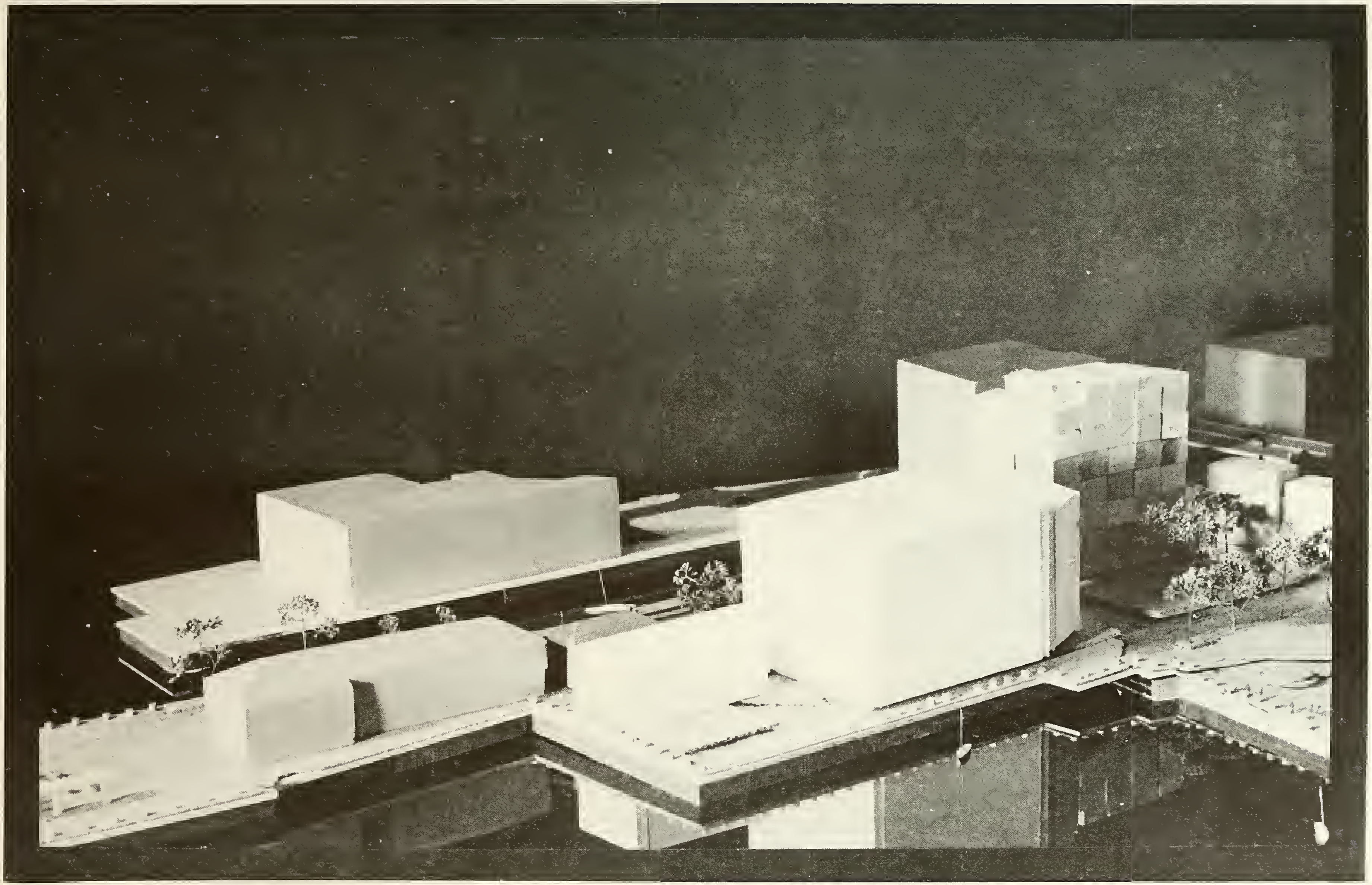


EXHIBIT 8 - Previous Building Mass on Site

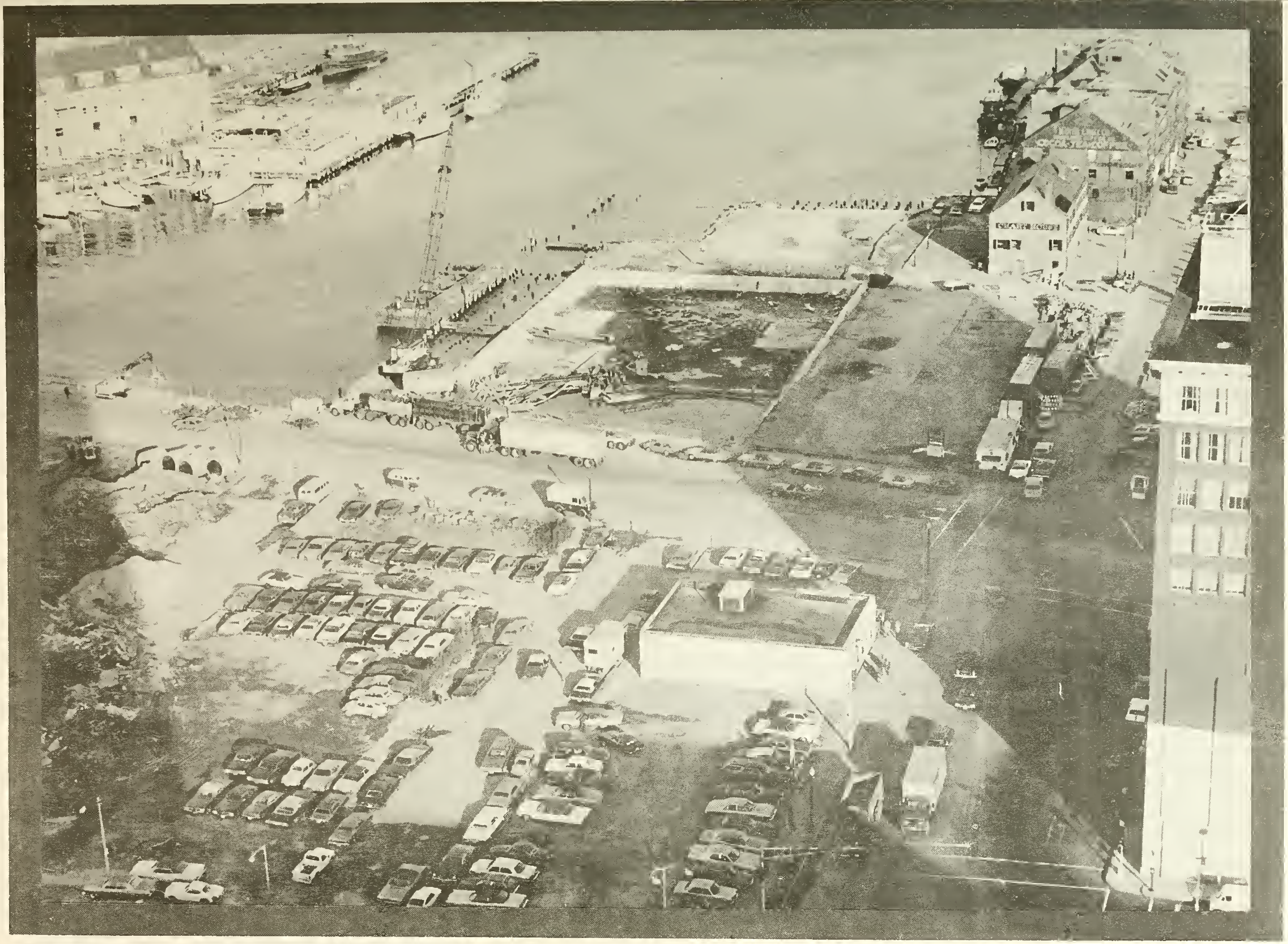


EXHIBIT 9 BIRD'S EYE VIEW OF PARCEL

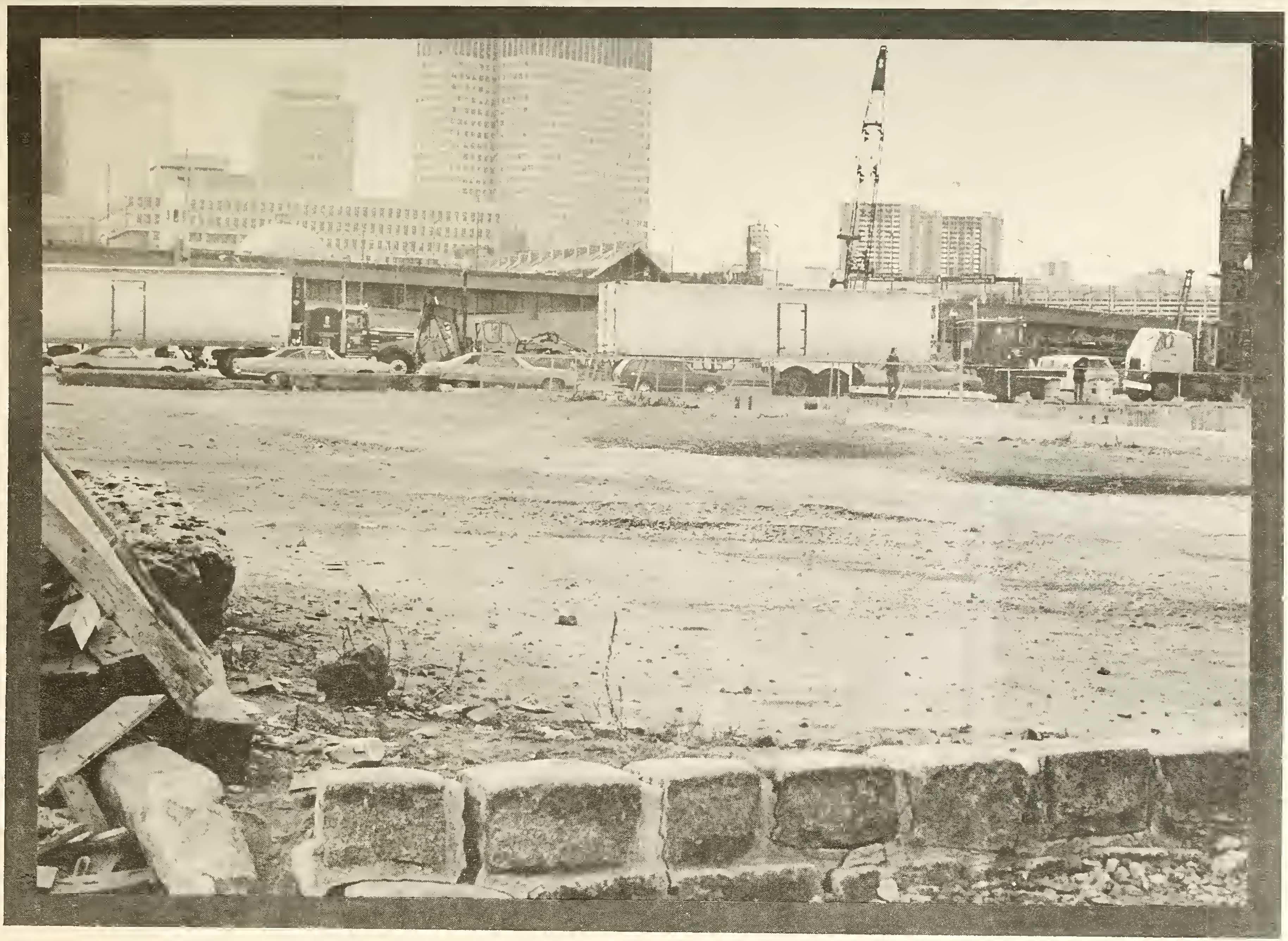


EXHIBIT 10 EYE LEVEL VIEW OF PARCEL

is a system of 40' timber piles spaced two feet on center. The surface elevation of the site along its eastern boundary is +14.* Mean sea level is +5.65 and mean high water is +10.54. The ground water elevation varies with the tide from +5 to +10 (from 4 feet below the ground surface to 10 feet below the ground surface). There are no other unusual subsurface soil or special site conditions which would affect its use as a building site. There are no unusual climatic conditions.

b. Vegetation, Wildlife and Natural Areas

There are no significant vegetation, wildlife, or unique natural features on the site. Boston Harbor is situated along the north and east boundaries of the site.

c. Surrounding Land Uses

The surrounding land use is a mix of commercial, retail, office, parking, transportation, public and residential facilities. The parcel is surrounded on three sides by public access open space and the shoreline beyond. Adjacent to the parcel on the west is the Fitzgerald Expressway. The neighboring buildings are a mixture of old and new, with a trend towards new as a result of urban renewal and downtown redevelopment adtivities. The project site was previously bisected by Atlantic Avenue which has recently been relocated to the west of the site and is bounded to the east by two nineteenth century buildings referred to as the Gardner Building and the Custom House. The Gardner Building and the Custom House have been renovated for use as a restaurant and a residential/commercial apartment building. Both buildings are listed on the National

---

*All elevations given in the Boston City Base

Register of Historic Places. On the east side of realigned Atlantic Avenue, development Parcel A-6 is now being used as a parking lot. Parcel A-7 is presently vacant. The Wharf to the south contains the New England Aquarium, and south of that is the Harbor Towers residential development. To the north are Commercial and Lewis Wharfs, which have been redeveloped to residential and retail/commercial use. Immediately north of Long Wharf, land has been designated for a 4.5 acre park which is currently in the initial phase of construction.

d. Infrastructure

Extensive collection and distribution lines, as well as large mains, providing all types of utility service, are located in the streets abutting the site. These include City of Boston water, sanitary sewage, storm and drainage systems; and Boston Edison Company electrical service and steam. Utility service to the site is part of the network and system serving the downtown core area of Boston, and has adequate capacity to meet existing and future demand. (See Appendix A.) There is a utility easement in Old Atlantic Avenue which bisects Parcels A-6 and A-7.

The site abuts existing streets and the area is served by an extensive street network. The site is near the Fitzgerald Expressway, the principal highway serving the downtown core. The site is located adjacent to a principal mass transit terminal (Aquarium Station), and a major busline (Line 3). It is also situated conveniently between North and South Station commuter railroad terminals.

e. Air Pollution Levels

The site is located within the Boston Core Area of the Boston Air Quality Study of the U. S. Environmental Protection Agency. Existing levels of certain air pollution variables in this area are high due primarily to heavy automobile and truck usage and unfavorable meterological conditions which constrain the dispersal of pollutants.

Air pollution data was analyzed at three nearby monitoring stations; Science Park, Government Center Trailer (no longer in operation), and the J. F. K. Building. Data for the years 1972 and 1973 is reported in Appendix B.

The primary national ambient standard for photochemical oxidants is 0.08 parts per million (ppm) average for a one hour period, not to be exceeded more than once per year. This standard has been exceeded on numerous occasions.

The state ambient standard for one hour concentrations of sulfur dioxide is 137 parts per billion. These standards are not presently exceeded at any of the nearby monitoring stations listed in Appendix B.

The national primary ambient standard for 24-hour concentrations of total suspended particulates (TSP) is 260 $\mu gm/m^3$ and the state ambient standard is 180 $\mu gm/m^3$. The national standard was exceeded on two occasions and the state standard on seven occasions during the period 1972-1973.

The primary national ambient standards for carbon monoxide are 35 ppm average for a one-hour period and 8.6 ppm average for an eight-hour period, each to be exceeded no more than once per year. These standards are exceeded frequently.

The primary national ambient standards for photochemical oxidants and carbon monoxide are expected to be met within the Boston Core Area by future reductions in vehicle emissions, future reduction in vehicle miles of travel, and conceivably by a reduction in truck traffic on Atlantic Avenue. Moreover, serious consideration is being given to removing the existing elevated Fitzgerald Expressway and replacing it underground. The site is subject to the air pollution levels described above. Operations of the proposed facility will be regulated by the controls which have or may be placed on the Boston Core Area by the U. S. Environmental Protection Agency under the Clean Air Act.

f. Noise Levels

Noise levels at the site are those associated with downtown street traffic and the harbor. Traffic on adjacent streets, while very close by, is slow moving due to low capacity and temporary construction interferences. The elevated Fitzgerald Expressway, which is located 110 feet west of the site is the major source of truck noise. Truck transport operations on Atlantic Avenue also contribute to noise levels.

The major source of existing noise in the vicinity of the site is from active construction equipment. When nearby construction activities are completed the major source of noise will be traffic on the Fitzgerald Expressway and Atlantic Avenue. Aircraft operations at Logan Airport to the east do not contribute to high noise levels but form a background and intermittent part of the noise environment. Direct aircraft fly-overs are infrequent and at high elevations.

g. Water Pollution Levels

The site is not in or adjacent to a public water supply basin. The water supply source for the site is the MDC Quabbin Reservoir in Western Massachusetts. Storm drainage from the site is to Boston Harbor. There are no known implications for health arising from the proposed use of the parcel. Recreational demands of a secondary, non-contact type (i.e., walking, sitting, etc.) will be generated by use of the parcel adjacent to the heavily polluted Boston Harbor.

2. Social Environment

a. Community Facilities and Services

The site is serviced by the City of Boston. Its use places no demand on school facilities. Existing health facilities are located nearby to meet infrequent emergency demands for services. Visitors to the hotel will generate a proportionately heavy demand on park, recreational and cultural facilities. Police and fire services to the site are provided by the City of Boston. The nearest Police Station is located adjacent to the J. F. K. Building in Government Center less than one mile from the site. The nearest Fire Station is Engine Company 35 located at 123 Oliver Street, one and one-half minutes from the hotel.

b. Employment Centers and Commercial Facilities

The proposed project will be an employment center for approximately 420 individuals and an important commercial facility for guests and visitors. It is located near the extensive employment centers and commercial facilities in downtown Boston.

c. Character of Community

The area is a mix of commercial, retail, residential, office, transportation, and service establishments, buildings and facilities. The trend in redevelopment is toward increased residential land use from the rehabilitation of old warehouse structures and new construction. However, the character of this community which is typified by compatible mixed land uses, will be maintained by the additional development of open spaces, retail, office facilities and residential uses.

3. Aesthetic Environment

The aesthetic character of the environment is of paramount importance because the parcel and its surroundings are singularly unique and visually compelling. Planners and urban designers have long recognized that great coastal cities must reclaim their long neglected waterfronts. Boston's waterfront had fallen into neglect and disrepair during the twentieth century for two important reasons. First, the warehousing facilities of the waterfront became obsolete as shipping requirements changed and came to occupy new locations. Second, as abandonment and deterioration progressed, and water pollution levels in the Harbor increased, man was inclined to turn his back on the waterfront and seek open areas away from the sea as a place for habitation.

Interest in the Boston waterfront was renewed after it was recognized that a number of underutilized structures could be rehabilitated and that the waterfront together with the Faneuil Hall market district retained a high aesthetic potential. The development of modern buildings harmoniously integrated with rehabilitated structures according

to an outstanding urban renewal plan has reinforced early aesthetic potential. Remaining vacant parcels will be redeveloped and a Park and system of public walkways will be developed according to the plan to create a magnificent waterfront of unique and high aesthetic appeal.

The area surrounding the project site contains several noteworthy buildings of historical and architectural significance. Exhibit 18 displays those districts within the surrounding area which are listed on, or being considered for nomination to the National Register of Historic Places.

PART V

ALTERNATIVES TO THE PROPOSED PROJECT

V. ALTERNATIVES TO THE PROPOSED PROJECT

1. No Action

The existing parcel could be left in its present state. The result would be the City owning two parcels of vacant and dilapidated land which would be a public safety hazard and blight on the urban environment. There are no apparent benefits for the no action alternative. The no action alternative would result in serious economic losses (taxes, employment, commerce, area deterioration) and significant adverse environmental impacts (human safety, visual pollution). This alternative would represent an abandonment of a portion of the urban renewal plan and would preclude the goal of concentrating human activities on the waterfront.

2. Defer Action

Same discussion and result as the no action alternative for the period that action is deferred.

3. Different Land Use

A different land use for the existing parcels could be adopted. Possible alternate land uses include:

a. Open Space - develop the site as open space. Open space/park use would have less adverse impact than the proposed use. Other sites in the City have been determined to have a higher priority for such uses, including the adjacent Parcel A-8. In addition, open space will be available at the end of Long Wharf and at South Market/Dock Square.

b. Mini-park - a small park could be developed on the site. This land use would duplicate the use being developed on the adjacent Parcel A-8; namely, the Waterfront Park. A mini-park would be more appropriately located in a densely developed part of the city.

c. Institutional - a public building could be built on the site. This use would take land off the tax roles and would not be in accordance with the urban renewal plan.

d. Parking - a parking lot or parking garage could be built on the site. Such use would increase parking capacity in the downtown core. The site is not well-suited for parking. Such use would have more negative impact than the proposed use, and less economic and social benefits, and violates the Urban Renewal Plan.

4. Alternative Locations for the Proposed Project

The hotel could be developed in another area of the city. Impacts associated with the proposed hotel would thus be manifested elsewhere. The alternative location might be less suited to accommodate public transit and automobile circulation. The proposed hotel has been designed to be well-suited to the environment of expanded Parcel A-7 where the demand for such a facility exists.

5. Smaller Building

A smaller hotel building could be built on the site (fewer stories or smaller floors). A proportionately less severe impact is not necessarily realized by merely reducing the size of the structure. The reduction would be offset by lower economic benefits of a smaller building including lower taxes. A much smaller building would

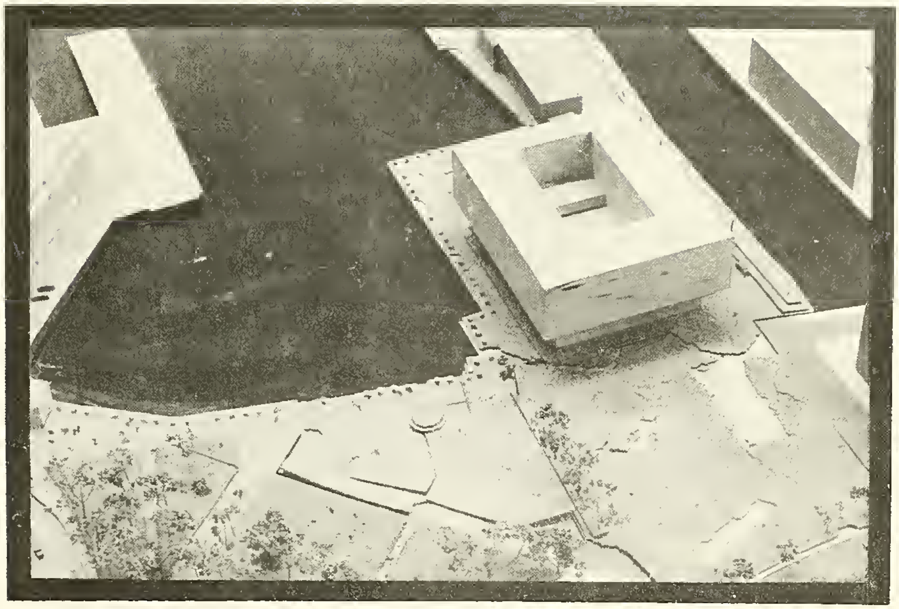
be making suboptimum use of the site and would not be attractive for private development because of the high costs of land acquisition, foundation and site development.

6. Larger Building

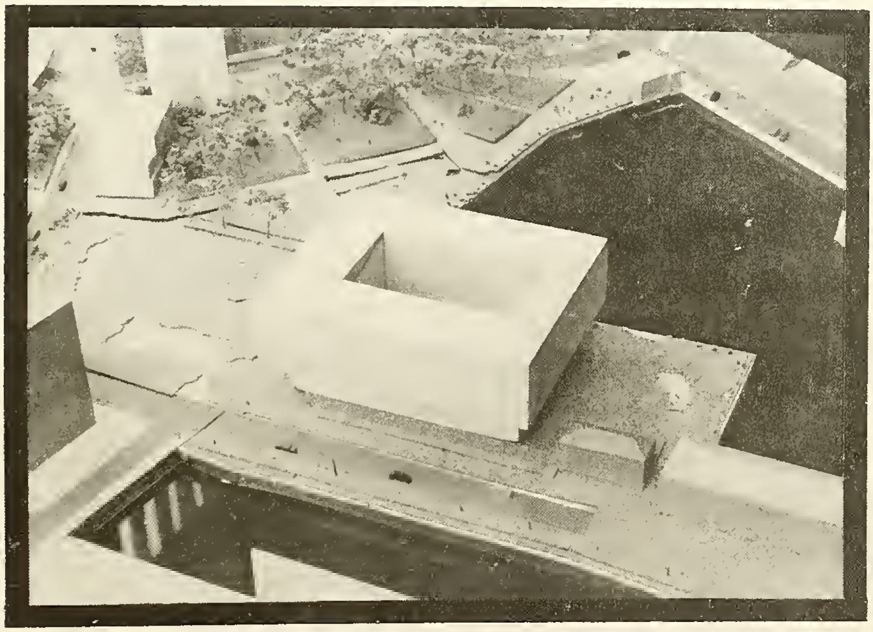
A larger hotel building could be built on the site. The benefits would be the accommodation of more people in a quality environment and higher economic benefits. Negative impact would be slightly greater than those for the proposed use. A much larger building would be out of scale for the size and surroundings of the site.

The design of the proposed Hotel, particularly with respect to siting and massing, was dictated, in large part, by its direct proximity to landmark districts. The primary objective of the design was to achieve compatibility in form and to reinforce visual access between existing landmark districts. The design of the proposed hotel evolved from four previous designs which were modified to achieve this primary objective. Each of the four previous designs was below the maximum allowable site density limit. The process of design and redesign was accomplished in response to the contribution of ideas from the BRA with participation of interested citizen groups.

The initial design of the hotel is shown on Exhibit 11. The building was designed at a site density just below the maximum limit. Accordingly, the structure was massive with maximum site coverage. The initial design was to accommodate 500 guests and 300 parking spaces within the structure. The building was to have ten stories above grade and be 107' high and was to be situated on Parcel A-7 exclusively. The initial design as proposed,



Initial Design - East View



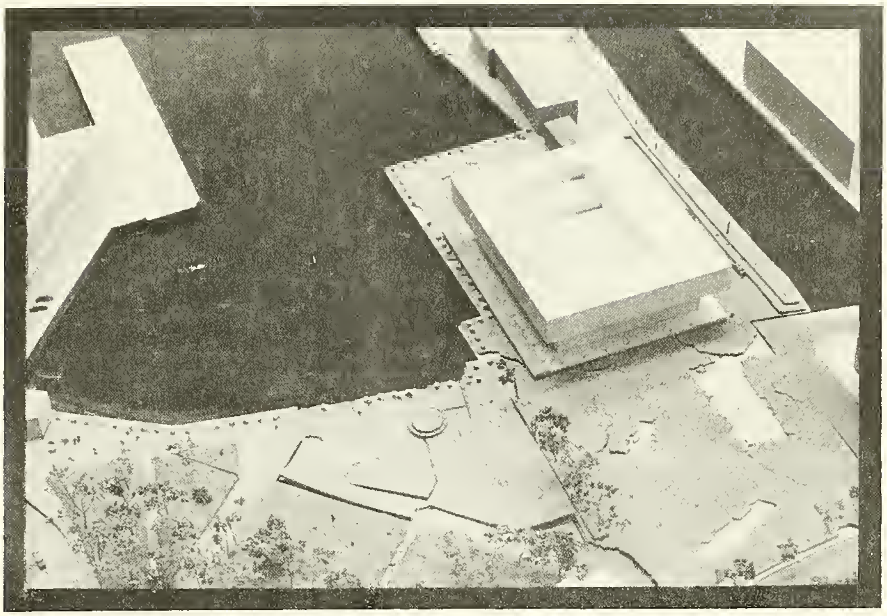
Initial Design - North View

EXHIBIT 11 - Initial Design

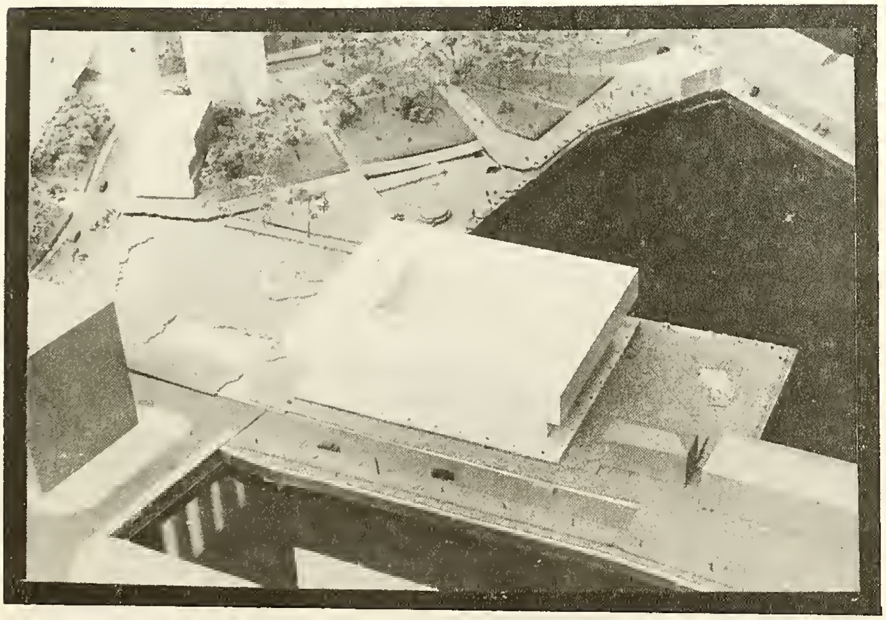
met all regulations in land use and site density and could have been developed. However, adverse environmental impacts were noted and opposition to the proposal was registered by local citizens groups. The major adverse environmental impacts were aesthetic in nature. The initial design was massive in scale and would have dominated historic buildings on the waterfront; most notably with the adjacent buildings on Long Wharf. Its form was in contrast to the lower and longer rectangular buildings nearby. Moreover, the building mass interrupted visual access between historic districts and to Boston Harbor.

A second design of the hotel was proposed to minimize the aforementioned environmental impacts in response to the contribution of ideas from the BRA. The second design is shown on Exhibit 12. The building height was reduced to 98' and nine stories above grade. The second design was to accommodate 350 guest rooms and 50 parking spaces within the structure. The form and massing of the building was to remain similar to the initial revised design. Although environmental impacts were reduced by the second design, opposition to the proposal was registered. Adverse environmental impacts on aesthetics were still evident, due mainly to the massing of the structure and its relationship to the Gardner Building.

A third design for the hotel was forwarded and is shown on Exhibit 13. The number of guest rooms and parking spaces were set at 350 and 50 respectively. The corners of the building were angled to improve pedestrian circulation and visual access. Although this third design represented an improvement in building form and an attendant reduction in environmental impact, opposition was still raised on the building's mass relative to nearby historic buildings and its effect on visual access.

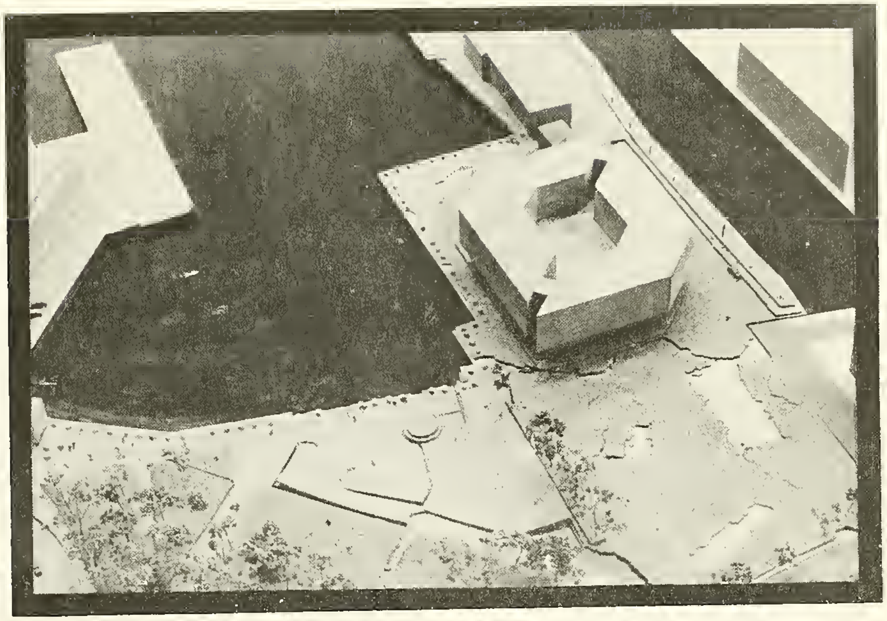


Second Design - East View

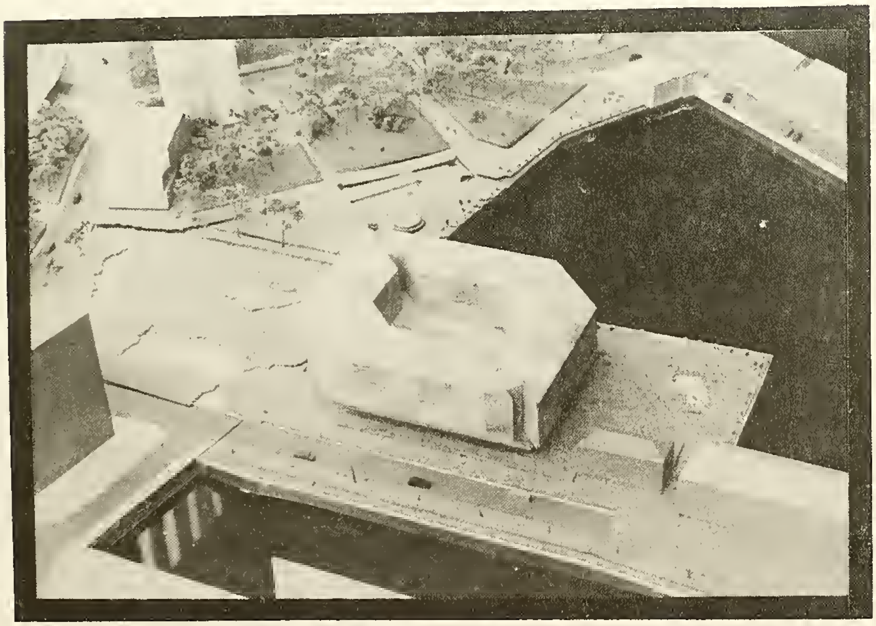


Second Design - North View

EXHIBIT 12 - Second Design



Third Design - East View



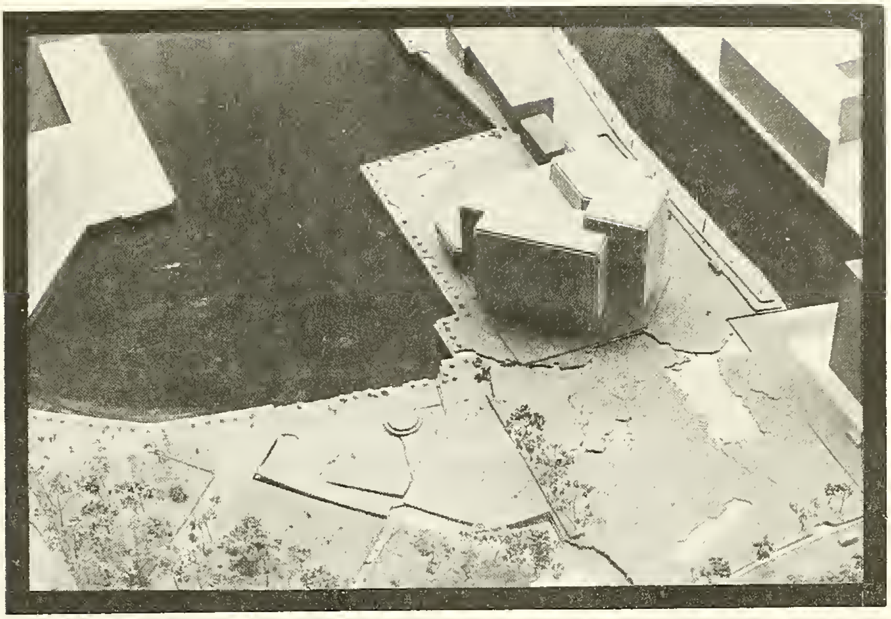
Third Design - North View

EXHIBIT 13 - Third Design

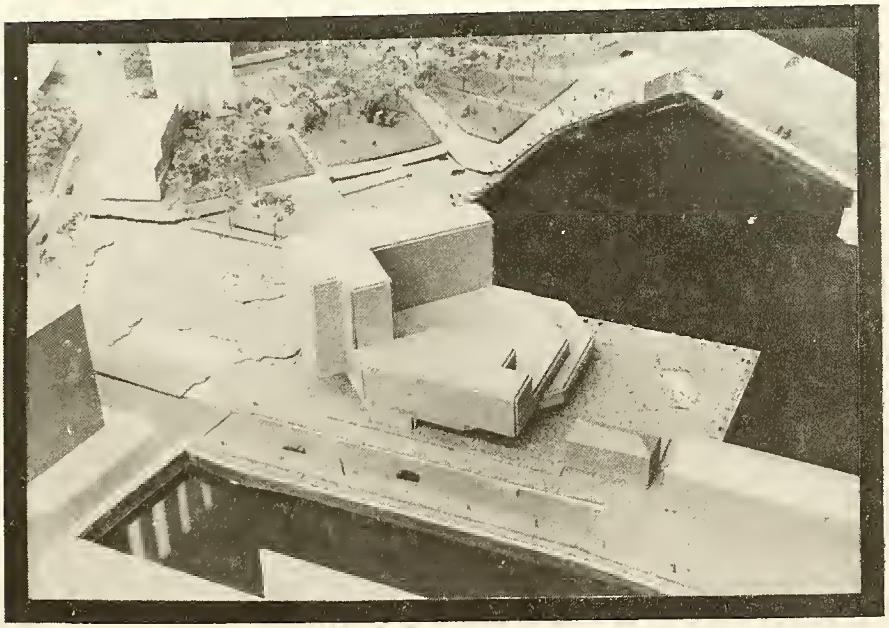
The fourth design of the hotel represented the first substantial alteration in building mass. This revision, which did not entail any further reduction in site utility, was in response to the thrust of opposition toward the previous square massings and their relationships in form and size with surrounding historic structures. The fourth design, shown on Exhibit 14, called for two interconnected high-rise sections plus an adjoining medium-rise and low-rise portion. The massing of the structure was designed to "step down" toward the Long Wharf-Custom House District so as to conform to its form and scale. In addition, corners were angled to maximize pedestrian circulation and visual access.

Although the fourth design represented a substantial improvement in scale relationships and massing, the proposal continued to meet some opposition. Some degree of impact on visual access remained. Moreover, the siting and relationship between the proposed hotel and the Gardner Building, although substantially improved was still contrasting in scale and form.

Following the submission of the fourth design, the developers concluded that no new revision of the hotel design on the original Parcel A-7 could meet the needs of economy and efficiency and, at the same time, satisfy interested citizen groups. Each of the four designs was a proposal for development according to the Downtown Waterfront-Faneuil Hall Urban Renewal Plan. The fourth design was planned with the consultation of architects familiar in all respects with the Urban Renewal Plan for the Waterfront. An environmental impact study was conducted on the fourth design in order to identify adverse impacts particularly with regard



Fourth Design - East View



Fourth Design - North View

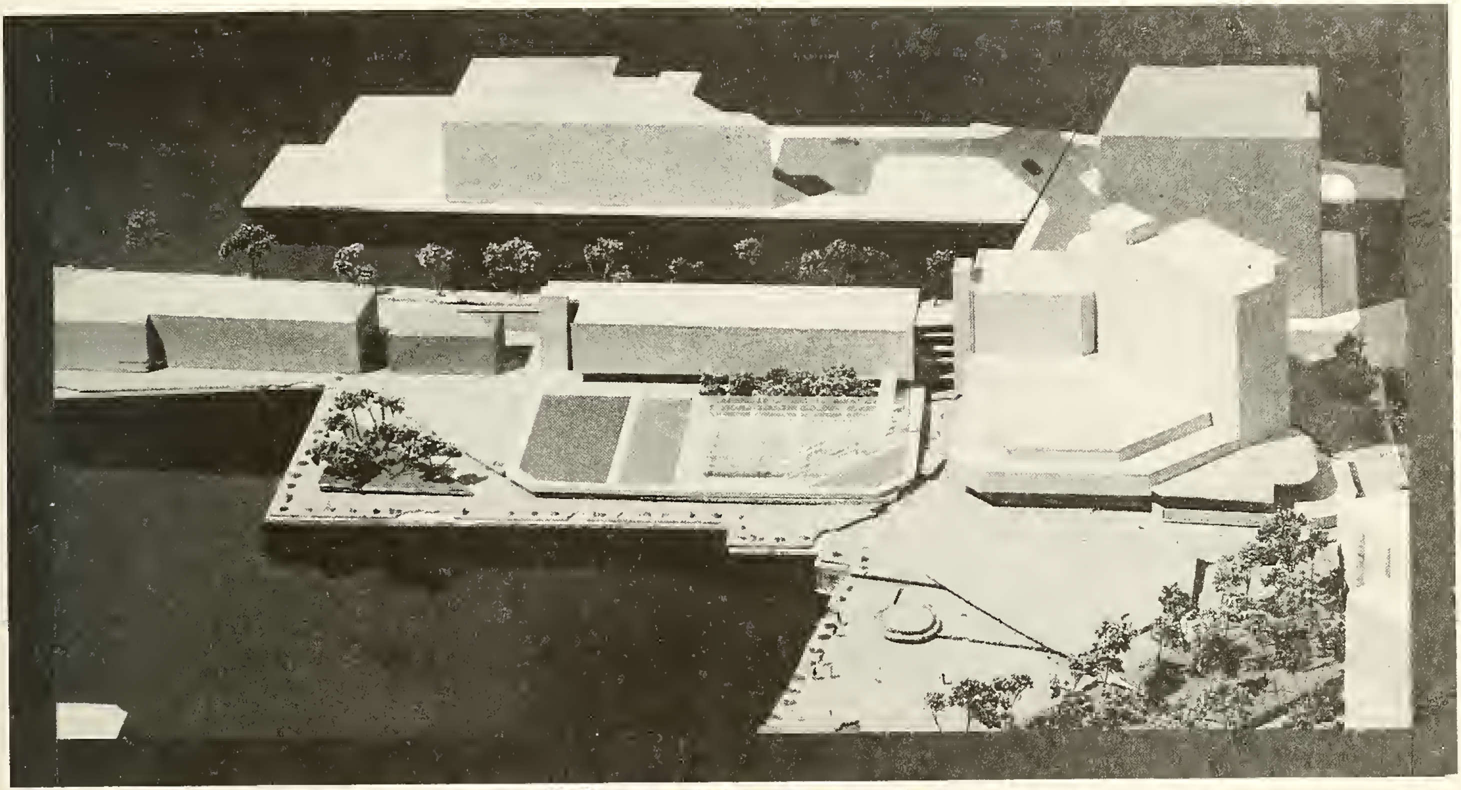
EXHIBIT 14 - Fourth Design

to aesthetics. That study identified aesthetic impacts, which have been previously discussed, as minor in relation to the positive aesthetic impacts rendered by the proposed site improvement.

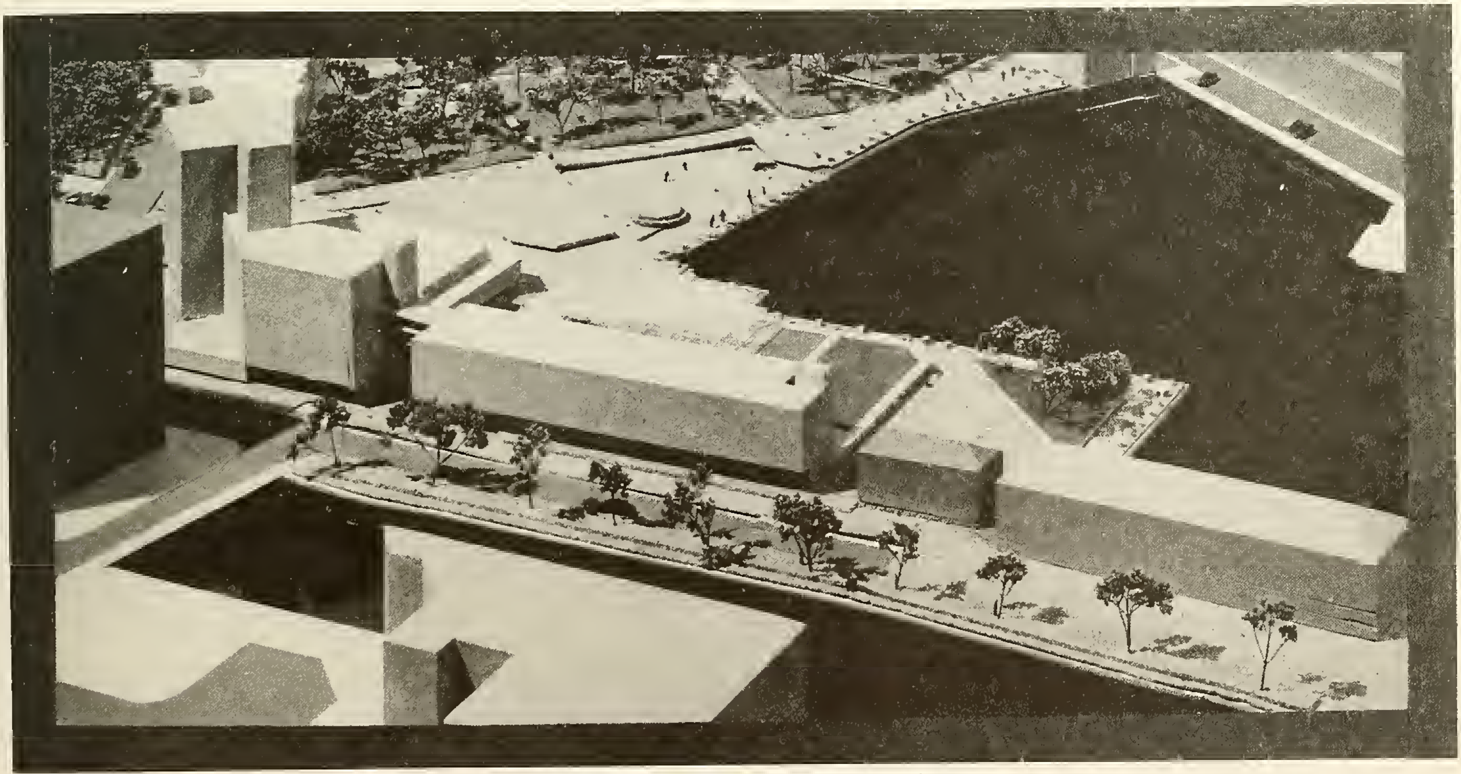
The fifth design for the hotel is presently proposed and is the subject of this environmental impact report. It is shown on Exhibits 5, 6 and 15. In an effort to accommodate the contribution made by local citizens' groups, the design solution is a significant departure from previous proposals. First, Parcel A-7 will be expanded to incorporate all of Parcel A-6. The original BRA urban renewal plan for Parcel A-6 allowed for an office building of 250 feet in height. Parcel A-6 was previously designated to a redeveloper for the construction of a forty story office building. The joining of the two Parcels to provide for a much less dense land use (proposed hotel) both in height and scale is the result of the environmental review that has been outlined above.

The massing of the hotel building has been changed by moving the step down high-rise masses further back on the site toward Atlantic Avenue. The main step down high-rise portion of the building will then be more than 300' from the Gardner Building and the Long Wharf-Custom House Block. The lower portion of the hotel will be situated nearest to the Gardner Building following the strong linear axis of historic buildings on Long Wharf. This lower wing will be very compatible in scale and form with the Gardner Building and the Custom House Block.

The cost of the fifth design will be higher in development cost than the previous designs because substantial concessions in the allowable building density for each parcel have been made



Fifth Design - South View



Fifth Design - North View

EXHIBIT 15 - Fifth Design

and spreading out the development adds to foundation and site development costs. In addition, the developer must bear these concessions in this fifth of a series of proposals in order to render a design that will be feasible and one that the community will fully endorse.

7. Comparison of Alternatives

The No Action, Defer Action, and Parking Facility alternatives, on balance, are less desirable than the proposed project in that they have less benefits and more adverse environmental impacts. The Public Building, Smaller Building, and Larger Building alternatives, on balance, are not significantly different from the proposed action with respect to environmental impacts. The Open Space/Mini-Park alternative, would by its nature, have less negative environmental impact in terms of municipal services and air quality but would not have the positive impacts of significantly increasing the annual tax revenues to the city and of creating additional construction employment. It would not create the public life and activity envisioned in the Urban Renewal Plan.

PART VI

THE IMPACT OF THE PROJECT AND ALTERNATIVES ON THE ENVIRONMENT

VI. THE IMPACT OF THE PROJECT AND ALTERNATIVES ON THE ENVIRONMENT

1. Physical Environment

a. Land Use

The proposed land use for the new parcel is for a hotel building as previously described, and as shown in Exhibit 7.

The project does not replace any buildings or land uses since the existing site is vacant. However, the project does replace a pre-existing eleven story building which was demolished. The demolished building had substantial mass containing approximately 370,000 square feet situated on Parcel A-7. The impact of the project on the aesthetic character of surrounding land uses is detailed in Section H-3, Aesthetic Environment. The long-term land use impact of the project is considered positive. The proposed land use will conform to the intended land use as reflected in the urban renewal plans of the Boston Redevelopment Authority.

b. Transportation and Traffic

Exhibit 7 displays the vehicular circulation patterns generated by the proposed hotel. Vehicular access to the main entrance of the hotel will be at State Street near its intersection with the realigned Atlantic Avenue. Taxis or private automobiles have three circulation options following the discharge of passengers at the main entrance; exit by State Street, exit by Atlantic Avenue, and entrance to the sublevel parking garage. Private automobiles that are parked in the sublevel garage may be used, by direct cirulation access, to pick up passengers waiting at the main entrance. A portion of one lane

of the circulation area in front of the main entrance will be used for waiting taxis. A second point of vehicular access is located on State Street at the low-rise portion of the hotel. This access point is exclusively for the entrance and egress to the parking garage.

Service vehicles will enter the site by Atlantic Avenue. They will go to the service platform shown on Exhibit 7 and will exit by Atlantic Avenue or State Street.

Pedestrian access to the site is indicated on Exhibit 7 and will be further detailed in this section.

Based on a traffic analysis of the project conducted by CLM/Systems, Inc., the project will generate approximately 1150 auto vehicle trips per average day, and 1550 per peak day. Tables 1 and 2 list the estimated auto trip generation and parking requirements. The estimates were based on the following:

Each employee will generate two trips per day, the trip to and the trip from work. It is estimated that 10% of the employees will utilize private automobiles.

Each hotel guest (one staying overnight) will generate four trips per day, made up of arrival and departure trips and business or other trips to and from the hotel. It is estimated that 70% of such trips will be private auto or taxi.

Each hotel visitor (one using the hotel public facilities but not staying overnight) will generate two trips per day, the trip to and the trip from the hotel. It is estimated that 75% of such trips will be by private auto or taxi.

TABLE 1

Boston Waterfront Hotel - AUTO TRIP GENERATION

I AVERAGE DAY

	Number	Trips/day	Trips	Pedestrian	Transit	Auto
Employees	420	2	840	-	90%/756	10%/84
Guests	440	4	1,760	25%/440	5%/88	70%/1232
Visitors	275	2	550	20%/110	5%/28	75%/412
TOTALS				550	872	1728

1728/1.5 passengers = 1,152 vehicle trips/day

II PEAK DAY

Employees	560	2	1,120	-	90%/1008	10%/112
Guests	585	4	2,340	25%/585	5%/117	70%/1638
Visitors	900	2	1,800	20%/360	5%/90	75%/1350
TOTALS				945	1215	3100

3100/2.0 passengers = 1550 vehicle trips/day

TABLE 2

Boston Waterfront Hotel - PARKING REQUIREMENT

I AVERAGE DAY

	Number	% By Priv. Auto	Number By Private Auto	Number Per Auto	Parking Required
Employees	420	10%	42	1.2	35
Guests	440	20%	88	1.5	59
Visitors	275	70%	193	1.5	129
				TOTAL	223
				ON-SITE	225

II PEAK DAY

	Number	% By Priv. Auto	Number By Private Auto	Number Per Auto	Parking Required
Employees	560	10%	56	1.2	47
Guests	585	20%	117	1.5	78
Visitors	900	70%	630	2.0	315
				TOTAL	440
				ON-SITE	225
				PARKING GARAGE	215

c. Public Transportation

The site is well served by public transportation, being adjacent to the MBTA Aquarium Station on the Blue Line, and within convenient walking distance of other MBTA stations in the downtown area. The site is also served by an MBTA bus line on Atlantic Avenue and by commuter rail lines serving South Station and North Station. Exhibits 16 and 17 illustrate the project location with respect to public transportation systems.

Despite the extensive public transportation service to the site, the CLM traffic analysis forecasts that 5% of the hotel guests and visitor trips will be by public transportation. However, the CLM forecast estimates that approximately 90% of the hotel employee trips will be by public transportation, reflecting the good service and the limited parking.*

The CLM analysis forecasts that the project will generate approximately 872 public transit trips per average day and 1215 trips per peak day. Such increases are considered to be very small additional loads on the public transportation system.

d. Truck Traffic

The project will generate an approximate average number of 25 truck trips per day for deliveries and services. This estimate is based on the operational requirements of a hotel

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*The 90% estimate is based upon three factors: first, direct access to transit and bus lines; second, the expected income of hotel employees relative to prevailing daily parking costs in the area; and third, the lack of specifically designated employee parking on the site.

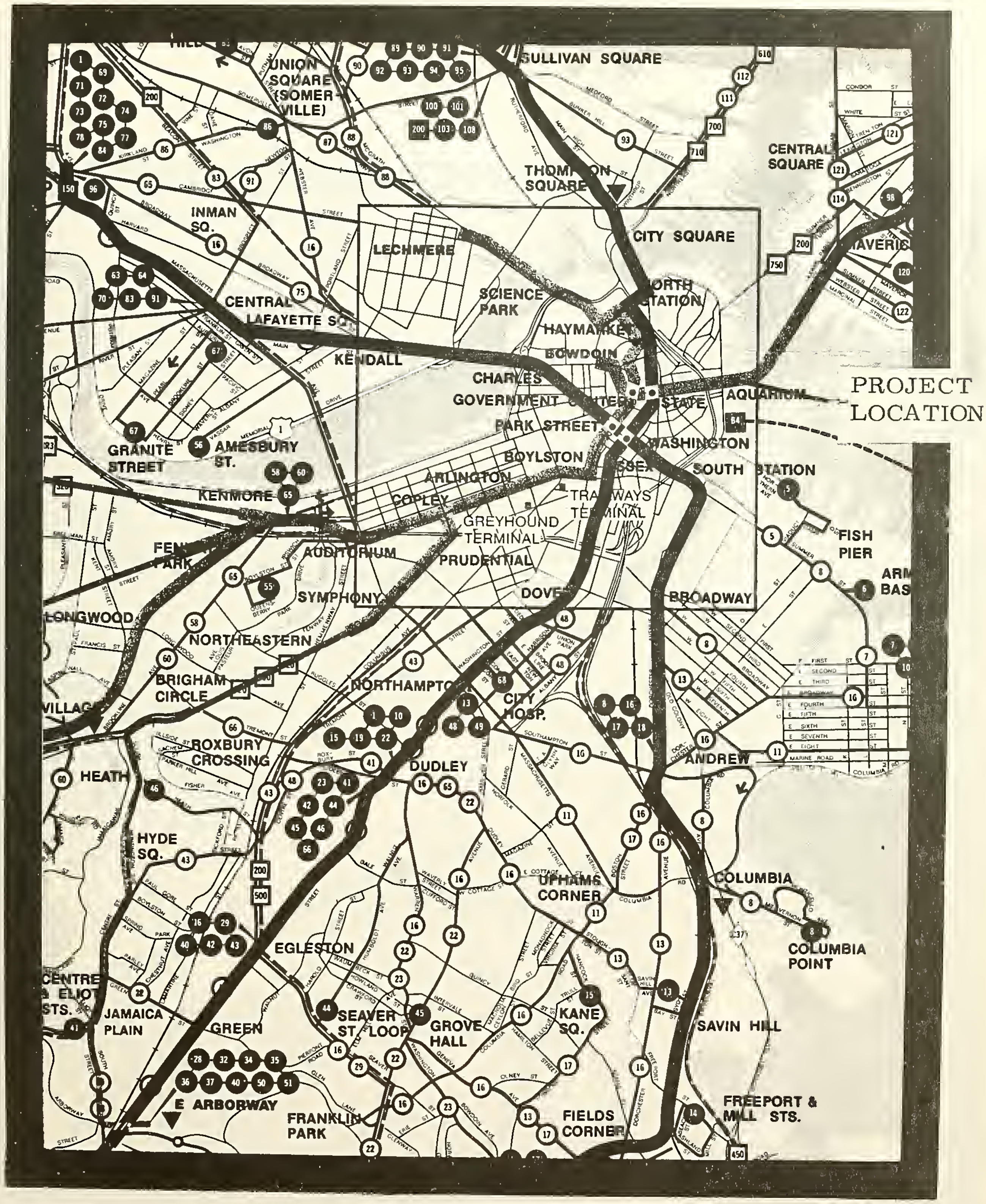

EXHIBIT 16
Public Transportation System
Source - MBTA

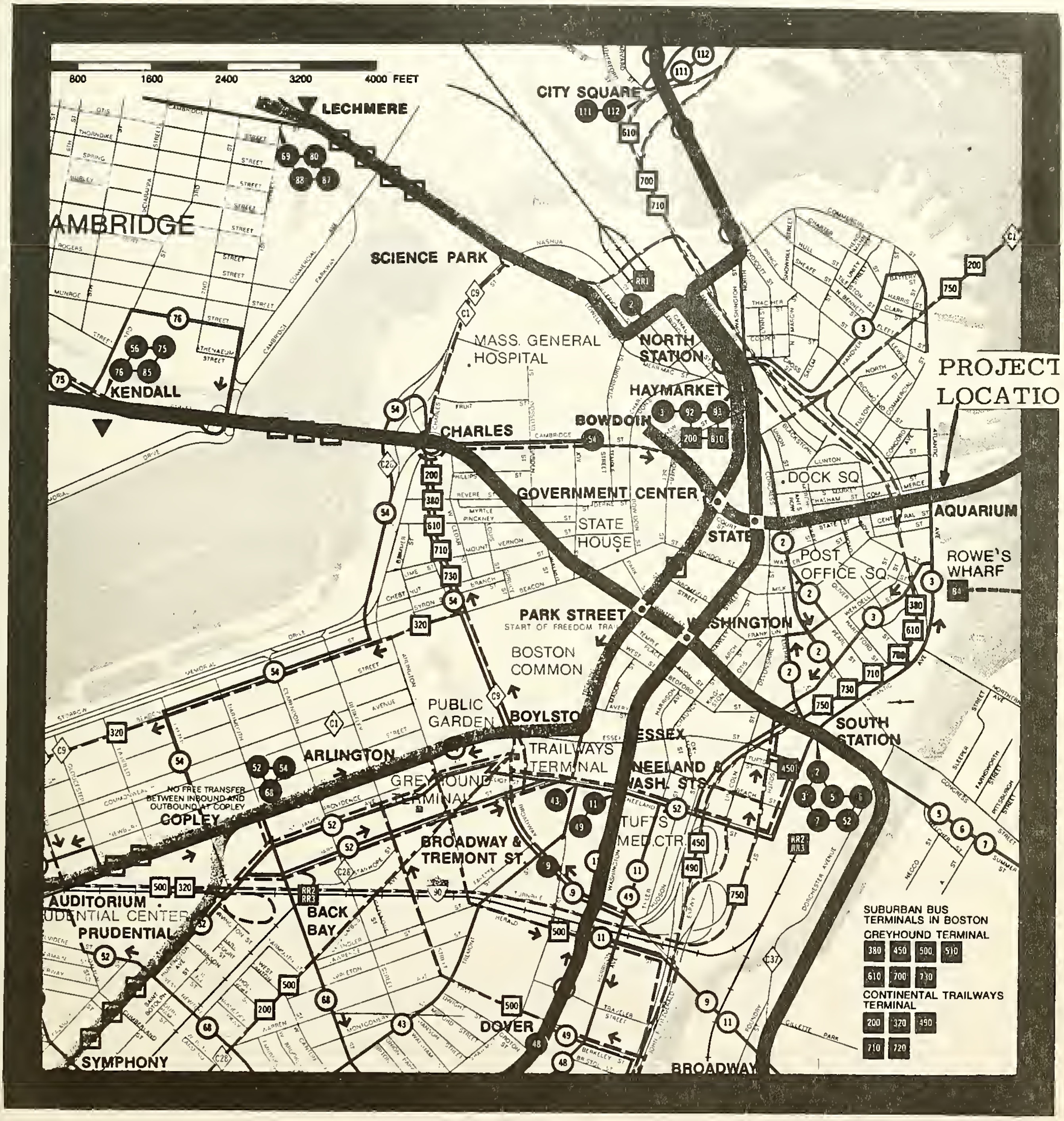

EXHIBIT 17
Public Transportation Terminals
Source - MBTA

N

of this size with associated facilities and truck loading bays. Trucks will have access to the site from a loading area located on the northwest corner of the building shown on Exhibit 7.

During the period of construction, there will be a temporary increase in truck traffic for the delivery of construction materials.

e. Pedestrian Traffic

The circulation system for vehicles traveling to and from the site has been so designed that there will be minimum conflict between pedestrians and vehicles. The large number of pedestrians that are expected on Long Wharf in the future will be accommodated by public walkways of appropriate width along the south side of the hotel, and public open space, free of autos, on the north side.

Along the south face of the hotel will be a covered pedestrian arcade beginning at the hotel entrance and extending along its entire length ending near the Gardner Building. There is also the important "Walk-to-the-Sea" which extends from the Government Center along South Market Street and down the north edge of expanded Parcel A-7. This becomes an arcade which ties into the pedestrian and utility easement that bisects Parcels A-6 and A-7. The pedestrian easement becomes part of a promenade which extends from India Wharf to the Waterfront Park. Pedestrian public edges will be developed around the perimeter of Long Wharf.

f. Air Quality

The building will contain a central heating, ventilation, and air conditioning (HVAC) system. It is anticipated that heating

will be either by steam obtained from the Boston Edison company or by oil. Accordingly, if steam is used there should be no fuel combustion emissions directly from the building. If oil is used then emissions will be controlled by state and federal environmental regulations. The building will utilize 435 KWH of electricity per month for the HVAC system and other operations and activities. The generation of the electric power and steam, should Edison steam be used, will contribute to the air pollution potential of the electric utility power and steam generation plants, which are subject to environmental quality controls.

To the extent that the project contributes to an increase in vehicular traffic (additional 1150 trips per average day), it will contribute to an increase in potential air pollution from vehicle emissions.

Carbon monoxide levels are analyzed in detail. Other air pollution parameters are not analyzed because their emission may be from sources other than vehicles and because they may be by nature, interactive in the environment and thus difficult to model. Carbon monoxide (CO) is produced almost exclusively from vehicles and is relatively inert in the environment.

Table 3 indicates that CO levels in the project area will decrease substantially from 1972 to 1980.

TABLE 3

Total CO Emissions in Project Area

Year	Emissions Tons/year
1972	1397.9
1980	506.6

SOURCE: Walden Research Division of Abcor, Inc., Air Quality Assessment of Two Candidate Sites for Housing for the Elderly at the Boston Waterfront.

CO levels in the project area will decrease as a result of improved vehicle emissions and implementation of transportation control plans.

The project is located in Zone 4 of the Boston Core Area of the Boston Air Quality Study. It will add 1177 vehicular trips to the zone amounting to 765 additional vehicles miles traveled per average day and will increase CO levels 0.35% over forecasted 1990 levels. (Methodology and calculations shown in Appendix B.)

While contributing to a potential increase in traffic and hence air pollution, the following is noted:

> The project will increase density in an area best served by public transportation and is very compatible with a public policy of encouraging public transportation use.
>
> Since it is exceptionally well served by public transportation, future constraints on private auto use need not constrain the effective use of the building.

Any increase in traffic due to the project will not occur until after 1976 when transportation control measures will probably be in effect and when a higher percentage of vehicles will be equipped with vehicle emissions control and anti-pollution devices.

g. Water Quality

Storm runoff from the building roof and site grounds will be discharged to the city storm drainage system in adjacent streets. The rainfall collecting surfaces, primarily the building roof, will not be a source of contamination to runoff. Almost all of the site will be covered over with impervious surface material. This will increase the existing percentage of impervious surface from 34% to about 100%. Discharge from the site will be increased from 5.2 cfs to 8.1 cfs. (See section on Storm Water.) Neither the volume of discharge nor the quality of runoff is expected to have adverse impacts on existing conditions.

The building will discharge an approximate average of 85,000 gallons of sanitary waste per day into the municipal sanitary sewage system in abutting streets, which, in turn, is connected to the Deer Island sewage treatment plant operated by the Metropolitan District Commission. A connection permit will be required from the Department of Public Works, City of Boston. The plant, which services primary treatment only, is subject to water quality controls. The building will add an estimated 85,000 gallons per day to the load on the plant, which has a capacity of one billion gallons per day and a current load of 343 million

gallons per day. The waste discharge from the building will primarily be from toilets. Other wastes will be generated by hotel garbage grinding disposal units. No industrial wastes or other contaminants will be produced from any activity in the building. The building will not have a significant impact on water quality due to sanitary waste discharge.

h. Noise

Noise levels in the project area are presently at a high level due to construction activities in the area. Traffic on adjacent streets including the high volume of truck and commercial traffic on the Fitzgerald Expressway and background aircraft operations make up the normal noise environment.

A noise assessment was conducted on BRA Parcel C-2b nearby during the latter part of 1974.* Noise measurements were undertaken on the parcel during the evening peak hour of 4:00 to 5:00 P.M. on October 3, 1974. A one-hour measurement was conducted at this time to monitor the worst case traffic condition rather than a full 24-hour measurement which would monitor spurious construction noise that will not be part of the future noise environment. The sound level exceeded 33 percent of the time during this period on Parcel C-2b was 59 dBA; well below the Interim Noise Exposure Standards (discretionary/normally acceptable) of the U. S. Department of Housing and Urban Development as described in Policy Circular 1390.2. Existing

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*Bolt Beranek and Newman Inc., Noise Exposure Assessment at Two Sites for Housing for the Elderly on the Boston Waterfront, 1974.

noise levels on the project site are slightly higher than the measured level of 59 dBA due to the proximity of the site to the Fitzgerald Expressway and Atlantic Avenue.

Noise levels on Parcel C-2b were forecasted using the U. S. Department of Transportation, Transportation Systems Center computer program for highway noise. The 1980 forecasted noise level to be exceeded 33% of the time on Parcel C-2b at ground level is 63 dBA. The 1980 noise levels on the project site will be slightly higher due to the proximity of the site to the Fitzgerald Expressway and Atlantic Avenue. The forecasted noise level of 63 dBA is below the HUD Circular 1390.2 standard for discretionary/normally acceptable.

To the extent that the project contributes to an increase in vehicle traffic (additional average 1150 vehicle trips per day), in the immediate area, it will contribute to an increase in noise levels. This net increase in noise from auto traffic will be minor and will not constitute an adverse impact.

The people working within the building, which will be fully enclosed and air-conditioned, will not be affected by the noises surrounding the building. Noise control measures to be included in the building's HVAC system include vibration mounts for pumps, sound insulation, and intake/exhaust louvers.

During the construction of the building, noise will be produced by the construction equipment and operations and materials delivery. Due to the high traffic noise levels in the area, except for the very brief periods of special construction operations, the construction noise levels will not exceed the background noise

levels in surrounding buildings. In addition, the contractor will be required to comply with the City of Boston's Construction Noise Regulations (effective June 1, 1975).

i. Municipal Services

The project will require the following municipal services:

1. Water

Water to serve the project will be obtained from the City of Boston. The project will use an estimated average 2,542,000 gallons per month and a peak of 495 gallons per minute. Existing medium pressure domestic water supply and high pressure fire lines, augmented by additional lines already planned or under construction will be adequate to meet future demand.

2. Sanitary Wastes

The project will be connected to the City of Boston's sanitary sewage system. The project will discharge an average 85,000 gallons per day and increase the peak load by 1.12 cfs. The MDC Deer Island sewage treatment plant has a capacity of one billion gallons per day and a current average load of 343 million gallons per day. (See section on Water Quality Impact.)

3. Storm Water

Flows of storm water for the existing site and proposed development have been calculated by the Rational Method.*

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*Coefficients of runoff assumed to be .6 for 11% of the site (hard packed bare ground surface), 0 for 21% of the site (open foundation which retains water), 1.0 for 16% of the site (paved surface) and .8 for 52% of the site (parking surface on Parcel A-6). Overall coefficient for the developed site assumed to be 1.0. Total site area, in acres, is 2.68. Rainfall assumed to be three inches per hour for high intensity condition.

The discharge rate for the existing site is approximately 5.2 cubic feet per second (cfs) during periods of high rainfall intensity. For the proposed development, where almost all of the site will be covered by impervious surface, the discharge rate during periods of high rainfall intensity will be 8.1 cfs. Existing storm drainage lines in adjacent streets, augmented by additional lines already planned or under construction will be adequate to meet future discharge volumes.

4. Solid Wastes

Solid wastes produced by the project will be collected and disposed of by a private contractor, in a sanitary land fill or incinerator which has been approved by the Commonwealth. The project will generate an estimated average of 0.83 tons of solid waste per day.

j. Other Impacts

Due to the nature and location of the site and the characteristics of the project, the following negative declarations, based on ecological and other surveys are made:

No fish, wildlife, or plant life of any kind, common or endangered, are located on the site or will be affected by the project.

No source of unique natural resources or features of any kind are located on the site, or will be utilized in the project.

No natural waters, water resources, wetlands, beaches, flood plains, or other water features will be altered by construction of the project or adversely affected.

The MBTA Blue Line subway is located along the parcel's south border, 21.5' to 27.5' below ground level and will not be disturbed by construction of the hotel. The subway tunnel lies beneath the State Street facade of the building. MBTA service will not be interrupted at any time. The entrance facility of Aquarium Station will be rebuilt on the southwest corner of the site adjacent to the main entrance of the hotel.

No park, recreational, cultural, or other public facility will be adversely affected by the project. The taller portions of the building will cast morning shadows over a small part of the southwest corner of the Waterfront Park during the summer months.

2. Social Environment

The project will improve the human urban ecology at the site and in the area. A blighted vacant parcel will be replaced by a modern building with adjacent public pedestrian access which will provide a quality environment for hotel users and the general public. The goals and objectives of the urban renewal plan will be achieved. The visual experience of people relative to the site will be improved. The project will increase the density and volume of human activity attributed to the site. The increased density of this particular site has been taken into account in the overall urban renewal planning and does not adversely affect the overall density and balance sought for the area and the city as a whole.

3. Aesthetic Environment

Two different and conflicting conclusions can be made relative to the impact of the project on the aesthetic environment.

The project will have a positive impact in that it will replace a vacant site of adverse scenic qualities with a building controlled in design by the Boston Redevelopment Authority. On the other hand, a building that is designed to meet modern day needs may not appear to some to be aesthetically compatible with adjacent historic buildings or older buildings of architectural merit.

As shown on Exhibit 18, the project site lies within close proximity to four landmark districts listed on the National Register of Historic Places. The Long Wharf-Custom House District located less than 100' to the east of the parcel, will be most directly affected. Within this district are located two buildings of historic significance: the Gardner Building and the Custom House.

The proposed hotel is also located within walking distance of three other landmark districts: the Fulton-Commercial District, the Quincy Market District and the Custom House District. The Commercial, Lewis, Sargent Wharfs District, which is being proposed for nomination to the National Register, is also located nearby.

Exhibit 18 is a site plan of the proposed hotel in relation to nearby Landmark Districts. Visual access in terms of views toward the Long Wharf-Custom House District as impacted by the hotel are interrupted on portions of expanded Parcel A-7 and on the realigned Atlantic Avenue including land situated to the west of Atlantic Avenue. Partial visual access is interrupted to the northwest and southwest including a portion of land now being developed as a park. The elevated Fitzgerald Expressway is a barrier to unobstructed views of the

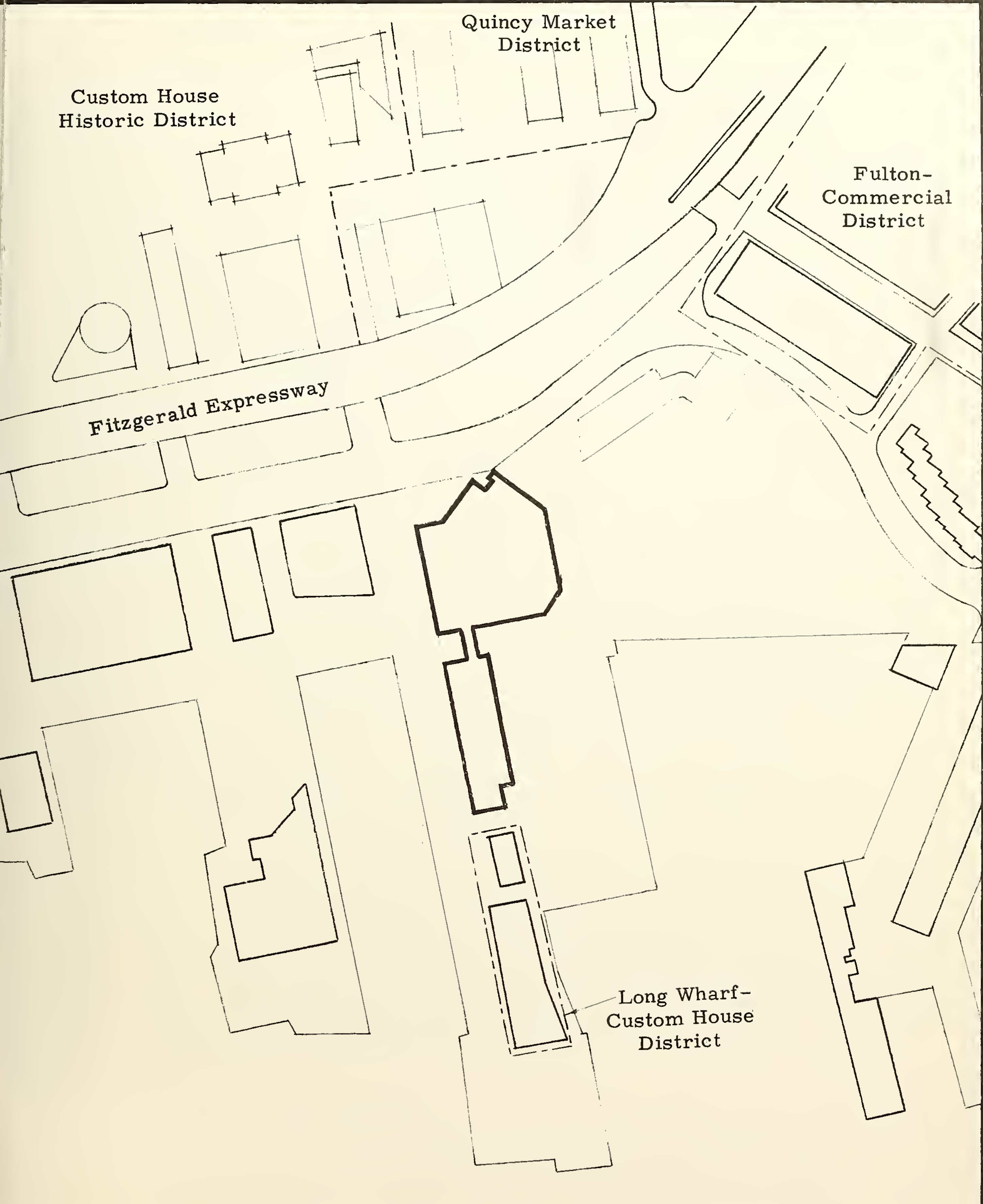

Quincy Market District
Custom House Historic District
Fulton-Commercial District
Fitzgerald Expressway
Long Wharf-Custom House District

EXHIBIT 18 - SITE PLAN OF HOTEL AND LANDMARK DISTRICTS

waterfront from the Quincy Market District although the State and Clinton Street ramps of the Expressway are scheduled to be removed to make the visual and pedestrian access "Walk-to-the Sea" possible. The hotel will have no adverse impact on views from this District to the Long Wharf-Custom House District. It will be noted, however, that the Hotel will be visible from portions of the Quincy Market and Custom House Historic Districts. The hotel will also be visible from portions of the Fulton-Commercial District and from Richmond Street and Commercial Wharf. Visual access from these areas to the Long Wharf-Custom House District will not be impacted by the hotel.

The hotel has been designed to preserve visual access from State Street to the harbor, in accordance with Boston Redevelopment Authority General Design Principles. Exhibits 19 and 20 show the existing visual access along State Street to the harbor. These views are presently dominated by the elevated Fitzgerald Expressway.

In summary, the hotel will affect the Fulton-Commercial, Quincy Market and Custom House Districts by interrupting some portions of visual access. The hotel will have a more direct impact on the Long Wharf-Custom House District as described above. The form and appearance of the hotel has been designed to complement older rehabilitated structures nearby and is subject to design approval by the Boston Redevelopment Authority.

4. Economic Impact

The project will make a positive contribution to the local economy. The principal economic benefits of the project include:

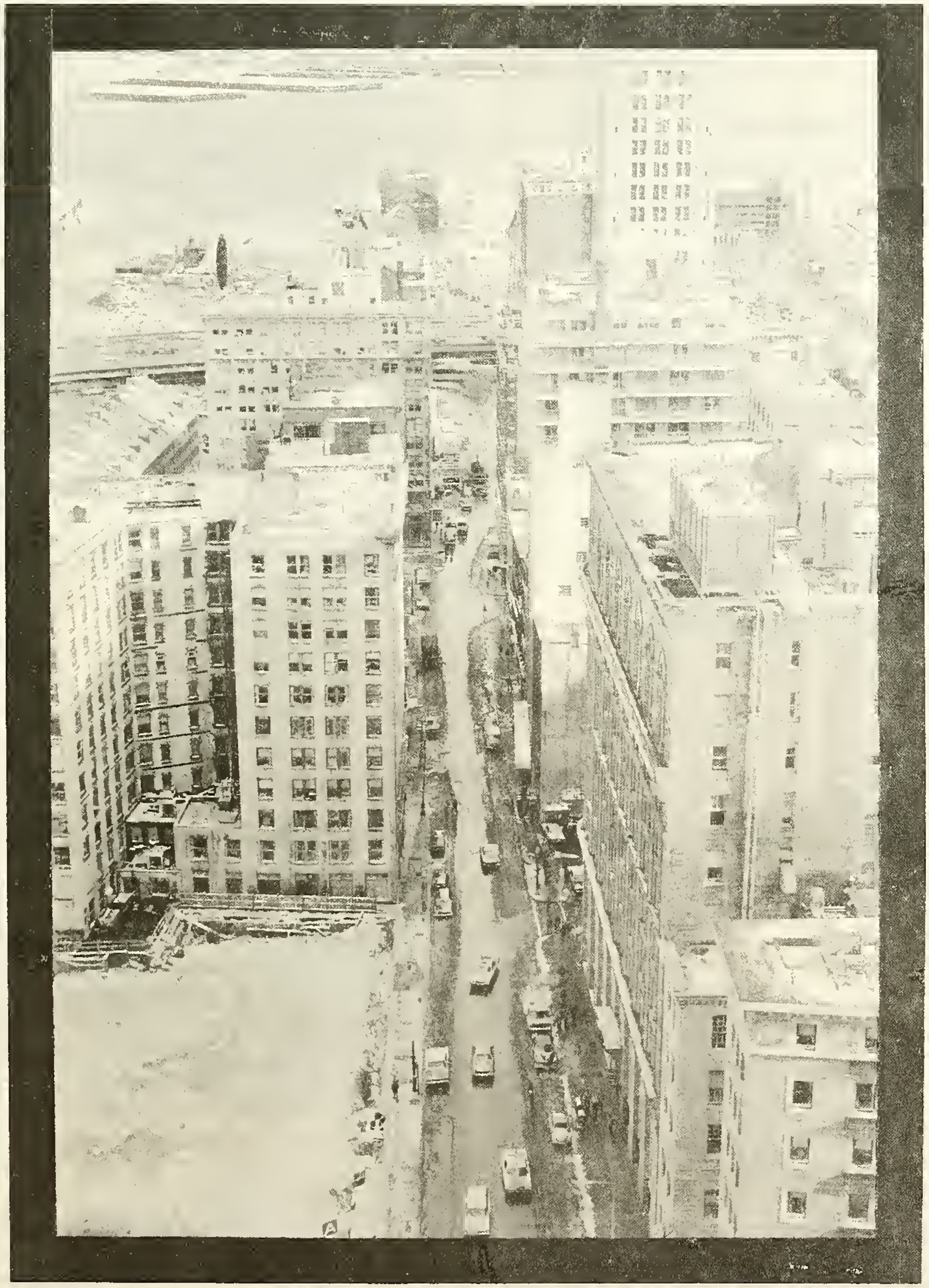
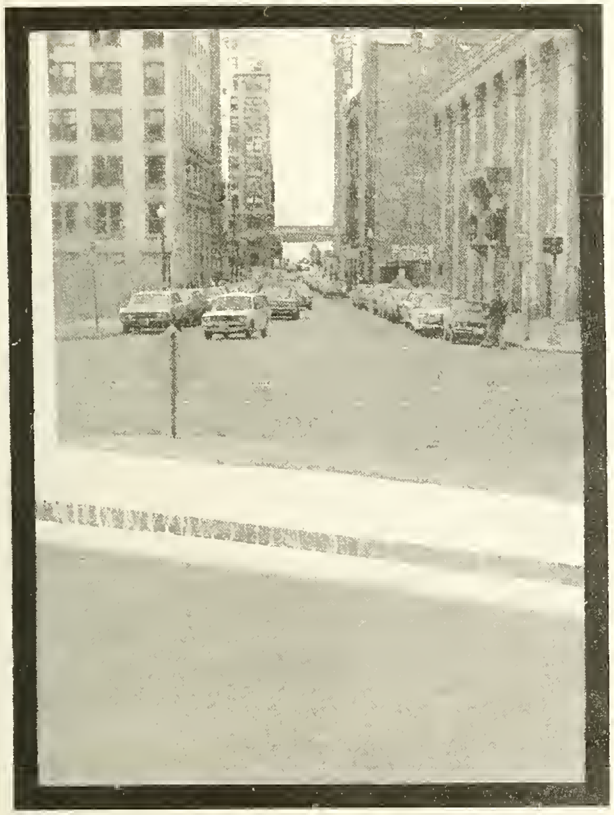
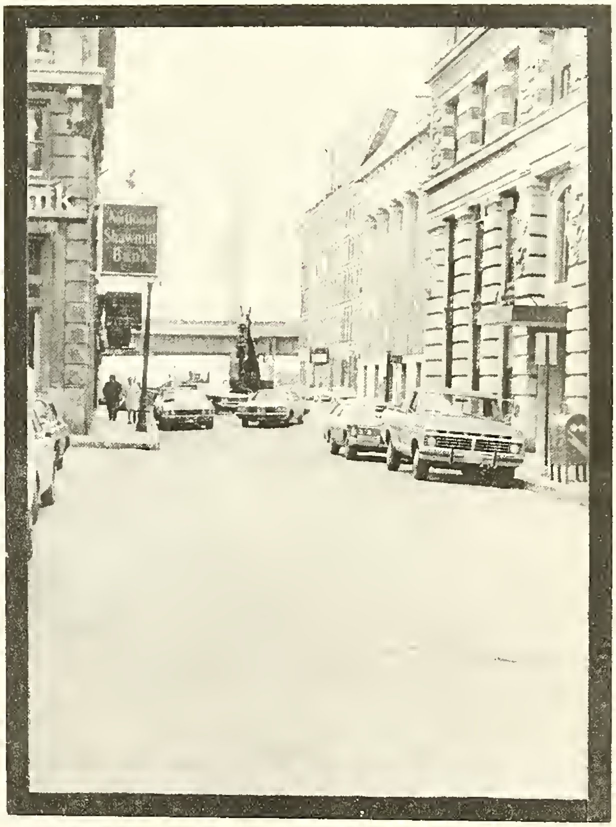


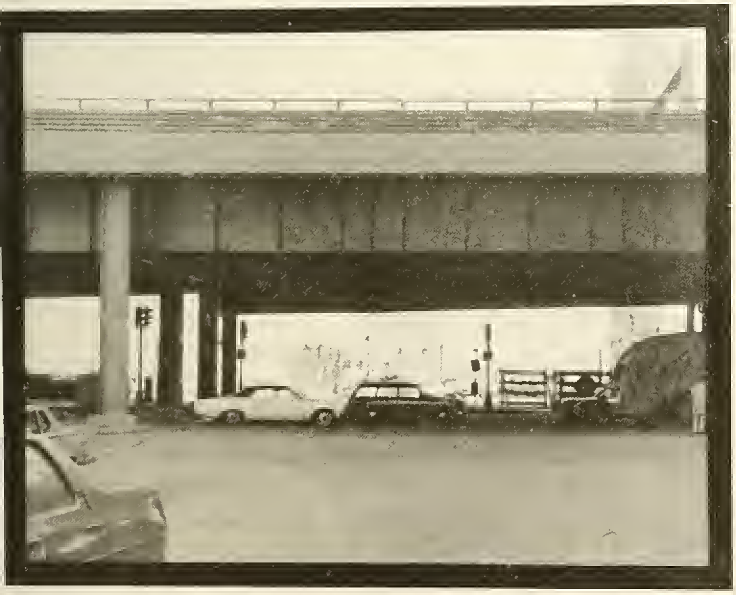
EXHIBIT 19 VISUAL ACCESS ALONG STATE STREET
AERIAL PERSPECTIVE



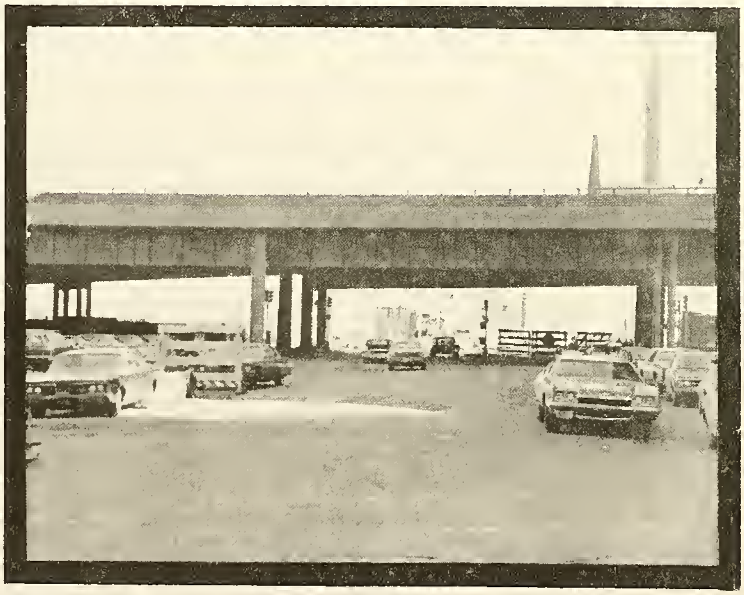
VIEW FROM OLD STATE HOUSE



VIEW FROM KILBEY STREET



VIEW FROM COMMERCIAL STREET



VIEW FROM BROAD STREET

EXHIBIT 20 VISUAL ACCESS ALONG STATE STREET
EYE LEVEL PERSPECTIVE

The construction and furnishing of the facility will involve an expenditure of approximately $15,000,000 for labor, materials, supplies and equipment procured from local businesses.

The project will provide approximately 500,000 man-hours of employment for local construction workers,

When completed, the project will provide approximately 420 jobs for local people.

5. Public Safety

Fire and police protection for the project will be provided by the City of Boston. The new building will be of modern fire resistant construction, will be fully sprinkled, and will fully conform with all fire regulations for Fire Code Type 1. No undue load on the services of the Police Department is anticipated. The building will also be under private security controls.

The personal safety of pedestrians on the site and on Long Wharf has been carefully considered. During construction, the site will be fenced and guarded. Heavy equipment will be properly secured during the evenings and week-ends. The proposed ingress-egress driveway has been designed to minimize conflicts between pedestrians and autos.

6. Impact of the Alternatives

The impact of each alternative on the environment is detailed under Part V, Alternatives to the Proposed Project. Table 4 provides a graphic comparison of the alternative impacts.

TABLE 4

COMPARISONS OF ALTERNATIVES WITH PROPOSED PROJECT

Environmental Element	No Action	Defer Action	Open Park	Public Building	Parking Facility	Smaller Building	Larger Building
Social Benefits	-	-	0	0	-	0	0
Economic Benefits	-	-	-	-	-	-	+
Neighborhood	-	-	0	0	-	0	0
Land Use	-	-	0	0	-	0	0
Urban Renewal Plan	-	-	0	0	-	0	0
Public Transportation	+	+	+	0	-	0	0
Vehicle Traffic	+	+	+	0	-	0	0
Visual	-	-	+	0	-	0	-
Air Quality	0	0	+	0	-	0	0
Water Quality	0	0	+	0	0	0	0
Noise	0	0	+	0	-	0	0
Municipal Services	0	0	+	0	0	0	0

CODE

0	Impact on environmental element not significantly different from that of proposed action.
+	Impact on environmental element considered more desirable (more benefits, less adverse impacts) than that of proposed action.
-	Impact on environmental element considered less desirable (less benefits, more adverse impacts) than that of proposed action.

The parking facility alternative clearly has the most adverse environmental impact. The no action and defer action alternatives each have strong adverse impacts. The public building and smaller building alternatives are similar to the proposed project in their extent of adverse impact except that each are less desirable in terms of economic benefit. The larger building alternative is also similar in impact to the proposed project. However, its impact on the visual environment is a key issue in an area situated amongst landmark districts. The open park alternative clearly has less impact than the proposed project but it does not achieve the same degree of economic benefit.

PART VII

MEASURES TAKEN TO MINIMIZE ENVIRONMENTAL DAMAGE

VII. MEASURES TAKEN TO MINIMIZE ENVIRONMENTAL DAMAGE

The architectural massing of the proposed hotel has evolved in a series of steps taken to minimize environmental damage. The building mass evolved from a 107' structure housing 500 guest rooms and 300 parking spaces on a parcel of 55,986 square feet, to a structure whose highest mass is approximately 135' housing 395 guest rooms and 225 parking spaces on a 117,175 square foot parcel. More importantly, the form of the original structure was substantially revised to minimize adverse aesthetic impacts. The lowest portion of the building follows the axis of the nearby Gardner Building minimizing contrasts in scale. The highest portion of the building is set furthest away from the Long Wharf-Custom House District to minimize contrasts in height.

The design of the hotel has evolved to minimize the interruption in visual access between landmark districts as detailed in Part V. Visual access from State Street to the waterfront is not interrupted. In order to maximize visual access and facilitate pedestrian circulation, corners of the building have been angled and arcades have been provided. A pedestrian easement will be maintained between the low and high-rise portions to maximize visual communication across the site and to serve as a walkway link. The impact of vehicular circulation activities will be minimized. Parking and service facilities will be covered. The impact of energy consumption will be minimized by the use of an energy efficient HVAC system.

The above mentioned provisions are proposed as measures to minimize environmental harm and are planned for implementation in the preliminary design program. A certain degree of impact in terms of traffic, air quality and noise levels is unavoidable in all alternatives except the no build and open space/park alternatives. However, these alternatives do not achieve an appropriate level of economic benefit and are not in accordance with the urban renewal plan.

Governmental provisions effecting the future operations of the hotel will also minimize environmental harm. Future traffic volumes will be partially controlled by the Transportation Control Plan for the Metropolitan Boston Intrastate Region of the U. S. Environmental Protection Agency. Vehicular generated air pollution will be reduced by the future implementation of vehicle emission control reductions. Construction noise will be controlled by new City of Boston construction noise regulations (Effective June 1, 1975).

There are no additional measures to reduce environmental harm that could be feasibly implemented by the developer.

PART VIII

KNOWN VIEWS OF THE PROJECT

VIII. KNOWN VIEWS OF THE PROJECT

Opposition to the previous proposals has been expressed by the Boston Waterfront Residents Association, Inc., also known as the Boston Waterfront Neighborhood Association. Other organizations that have expressed opposition to previous proposals include the Boston Harbor Associates, the League of Women Voters and the Sierra Club. The Boston Waterfront Residents Association, Inc. has expressed affirmative support for the final Hotel design as presented in this report.

Appendix A

INFRASTRUCTURE

INFRASTRUCTURE

Utility improvements in the immediate vicinity to augment capacity are currently underway. The development of utility improvements is in accordance with the urban renewal plan and is designed to meet the needs of planned new land uses such as the proposed hotel.

The Boston Public Works Department, Water and Sewer Division Engineers were informed of the proposed hotel development prior to the issuance of this Environmental Report. Their observations on the capacity of existing and proposed infrastructure to meet the anticipated future demand of the hotel are attached herein.

CITY OF BOSTON
PUBLIC WORKS DEPARTMENT
ONE CITY HALL SQUARE
BOSTON, MASS. 02201

JOSEPH F. CASAZZA
Commissioner
JOHN F. FLAHERTY
Deputy Commissioner
Telephone 722-4100
Ext. 700

DIVISION ENGINEERS
John F. Flaherty, Sanitary
Frederick L. Garvin, Engineering
Charles M. Martell, Highway
John P. Sullivan, Water
James A. O'Rourke, Sewer

June 9, 1975

TO WHOM IT MAY CONCERN:

This is to certify that sewerage works are available at the site of the redevelopment of B.R.A. Parcels A-6 & A-7, at the base of Long Wharf, Boston, Massachusetts.

James A. O'Rourke, Div. Engr.
Sewer Division

JAO/MJD/ljg

CITY OF BOSTON
PUBLIC WORKS DEPARTMENT
ONE CITY HALL SQUARE
BOSTON, MASS. 02201

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Deputy Commissioner
Telephone 722-4100
Ext. 700

DIVISION ENGINEERS
John F. Flaherty, Sanitary
Frederick L. Garvin, Engineering
Charles M. Martell, Highway
John P. Sullivan, Water
James A. O'Rourke, Sewer

June 6, 1975

TO WHOM IT MAY CONCERN:

RE: Redevelopment of BRA Parcels A-6 & A-7

Please be advised that there is potable water available at the above referenced BRA parcels located at the base of Long Wharf.

This water supply meets potable requirements of the United States Public Health Service and will adequately serve the premises.

Very truly yours,

John P. Sullivan

John P. Sullivan
Division Engineer

JPS:jc

Appendix B

AIR POLLUTION LEVELS

TABLE B-1

MAXIMUM SO_2 CONCENTRATIONS BY MONTH

(in parts per billion)

Month/ Year	SOURCE					
	Government Center Trailer		JFK Building		Science Park	
	24 Hour	1 Hour	24 Hour	1 Hour	24 Hour	1 Hour
1972						
January	-	-	26	-	49	-
February	-	-	-	-	57	-
March	-	-	-	-	42	-
April	-	-	1	-	39	-
May	-	-	1	-	16	-
June	-	-	9	-	-	-
July	-	-	3	-	-	-
August	-	-	3	-	-	-
September	34	-	1	-	-	-
October	37	96	1	-	-	-
November	58	115	36	-	-	-
December	26	-	25	-	-	-
1973						
January	24	45	45	-	-	-
February	32	2	37	-	-	-
March	-	-	10	-	-	-
April	-	-	22	-	-	-
May	-	-	9	-	-	8
June	-	-	3	-	-	0
July	-	-	4	-	1	14
August	-	-	5	-	3	-
September	-	-	14	-	10	-
October	-	-	14	-	16	82
November	-	-	37	-	32	130
December	-	-	14	-	12	72

TABLE B-2

MAXIMUM 24 HOUR TOTAL SUSPENDED PARTICLES CONCENTRATIONS BY MONTH

(in $\mu gm/m^3$)

Month/ Year	SOURCE Government Center Trailer	JFK Building	Science Park
1972			
January	-	217	174
February	-	-	293
March	-	-	168
April	-	-	141
May	-	83	94
June	-	97	-
July	-	98	-
August	-	133	-
September	158	55	-
October	167	69	-
November	242	113	-
December	250	118	-
1973			
January	222	95	-
February	423	-	-
March	-	-	-
April	-	-	-
May	-	-	78
June	-	-	-
July	-	69	52
August	-	147	83
September	-	95	83
October	-	88	88
November	-	70	79
December	-	49	56

TABLE B-3

MAXIMUM CO CONCENTRATIONS BY MONTH

(in parts per 10 million)

Month/ Year	SOURCE Government Center Trailer 1 Hour	8 Hour	Science Park 1 Hour	8 Hour
1972				
January	-	-	19	143
February	-	-	18	105
March	-	-	35	121
April	-	-	16	-
May	-	-	-	-
June	-	-	-	-
July	-	-	-	-
August	-	-	-	-
September	16	116	-	-
October	18	125	-	-
November	16	131	-	-
December	24	180	-	-
1973				
January	23	163	-	-
February	23	151	-	-
March	-	-	-	-
April	-	-	-	-
May	-	-	-	-
June	-	-	-	-
July	-	-	13	88
August	-	-	21	110
September	-	-	28	110
October	-	-	20	106
November	-	-	23	111
December	-	-	28	116

TABLE B-4

LISTING OF AIR POLLUTION STANDARDS FEDERAL AND STATE

Factor		Measure	Standard		
			Federal Primary	Federal Secondary	State
SO_2	24 Hour	parts per billion	137	-	105
SO_2	1 Hour	parts per billion	-	-	280
TSP	24 Hour	$\mu gm/m^3$	260	150	180
CO	1 Hour	parts per million	35	35	-
CO	8 Hour	parts per 10 million	86	86	80

FORECASTED AIR POLLUTION LEVELS

The site lies within Zone 4 of the Boston Core Area of the Boston Air Quality Study. Traffic volumes for the year 1977 in terms of vehicle miles travelled (VMT) per day by vehicular mode were surveyed and forecasted. Table B-5 displays this data.

TABLE B-5

1977 Traffic Volumes, Zone 4

Category	Autos (gasoline)	Trucks (gasoline)	Other (i.e., diesel)
VMT/day	169,549	7,199	4,150
Mean Speed	21MPH	10 MPH	9 MPH
Fractional Distribution of Speeds	0.678	0.063	0.259

SOURCE: GCA Corporation, Technology Division, Proposed Transportation Control Plan For The Metropolitan Boston Interstate AQCR 1973.

Normal growth in traffic volume will occur at an annual rate of 1.6%. However, it is reasonable to assume that traffic growth will be slower than normal if transportation control measures are implemented. Table B-6 shows the forecasted daily VMT of light and heavy duty gasoline vehicles with annual growth factors. The category comprising all other types of vehicles will not be forecasted because it represents a mix of diesel and other vehicle types which are difficult to model.

The calculation of light and heavy duty vehicle exhaust emission factors for carbon monoxide is expressed mathematically as:

TABLE B-6

FORECASTED LIGHT AND HEAVY DUTY GASOLINE POWERED VMT WITH ANNUAL GROWTH FACTORS

Year	Growth Factor	Light Duty	Heavy Duty
1977	1	169,549	7,199
1978	1.6	172,262	7,314
1979	1.5	174,846	7,424
1980	1.5	177,468	7,535
1981	1.5	180,130	7,648
1982	1.4	182,652	7,755
1983	1.4	185,209	7,864
1984	1.4	187,802	7,974
1985	1.3	190,244	8,078
1986	1.3	192,717	8,183
1987	1.3	195,222	8,289
1988	1.3	197,760	8,397
1989	1.3	200,331	8,506
1990	1.3	202,935	8,617

SOURCE: CLM/Systems, Inc.

$$e_{np} = \sum_{i \quad n-12}^{n+1} c_i d_i m_i s_i \quad *$$

where: e_{np} = Emission factor in grams per vehicle mile for calendar year (n), and pollutant (p)

c_i = The 1975 Federal test procedure emission rate for pollutant (p) in g/mi for the i^{th} model year at low mileage[1,2]

d_i = The controlled vehicle pollutant (p) emission deterioration factor for the i^{th} model year at calendar year (n)

m_i = The weighted annual travel of the i^{th} model year during calendar year (n). The determination of this variable involves the use of the vehicle model year distribution.

s_i = The weighted speed adjustment factor for the i^{th} model year vehicles

*EPA, David S. Kircher, *Compilation of Air Pollution Emission Factors Light and Heavy Duty Gasoline Powered Vehicles 1973.*

The formula gives an average emission factor of CO for all vehicles in operation in the year under study. It accounts for the variation in vehicle age and deterioration of emission control apparatus among the vehicle population.

Tables B-7 and B-8 list the equation parameters of the vehicle population for light and heavy duty vehicles in the year 1990. The bottom line average emission factor in grams per mile is multiplied times the forecasted VMT for 1990 on Table B-6. The product of average CO in grams per mile and VMT in Zone 4 for 1990 is expressed in terms of kilograms of CO per day in Zone 4 and is shown in Table B-9.

TABLE B-7

1990 CO Emission Factors for Light Duty Gasoline Powered Vehicles

Year	c_i	d_i	m_i	s_i	e_i
1977	1.8	3.77	.020	1.1	.1492
1978	1.8	3.77	.040	1.1	.2985
1979	1.8	3.77	.021	1.1	.1567
1980	1.8	3.77	.035	1.1	.2612
1981	1.8	3.77	.041	1.1	.3060
1982	1.8	3.48	.063	1.1	.4340
1983	1.8	3.26	.078	1.1	.5034
1984	1.8	2.99	.088	1.1	.5209
1985	1.8	2.73	.106	1.1	.5728
1986	1.8	2.42	.106	1.1	.5078
1987	1.8	2.14	.098	1.1	.4151
1988	1.8	1.77	.110	1.1	.3854
1989	1.8	1.34	.116	1.1	.3076
1990	1.8	1.00	.078	1.1	.1544
				$\sum$	4.9730

SOURCE: U.S. EPA and CLM/Systems, Inc.

TABLE B- 8

1990 Emission Factors for Heavy Duty Gasoline Powered Vehicles

Year	c_i	d_i	m_i	s_i	e_i
1977	130	1	.190	1.1	27.17
1978	130	1	.033	1.1	4.719
1979	130	1	.033	1.1	4.719
1980	130	1	.037	1.1	5.291
1981	130	1	.035	1.1	5.005
1982	130	1	.047	1.1	6.721
1983	130	1	.055	1.1	7.865
1984	130	1	.065	1.1	9.295
1985	130	1	.076	1.1	10.868
1986	130	1	.084	1.1	12.012
1987	130	1	.081	1.1	11.583
1988	130	1	.087	1.1	12.441
1989	130	1	.106	1.1	15.158
1990	130	1	.071	1.1	10.153

$\sum$ 143

SOURCE: U. S. EPA and CLM/Systems, Inc.

TABLE B-9

1990 Forecasted CO Levels in Zone 4

	1990 VMT	Emission Factor (g/mi.)	Forecasted CO (Kg/mi.)
Light Duty	202,935	4.9730	1,009
Heavy Duty	8,617	143.0	1,232
Total			2,241

SOURCE: CLM/Systems, Inc.

Zone 4 of the Boston Air Quality Study is shown on Exhibit B-1. The maximum distance between the project site and the farthest zone boundary line is 0.65 miles. The actual VMT within Zone 4 of project generated vehicles per trip will be less than this maximum distance of 0.65 miles. To account for all possible VMT within Zone 4 generated by the project, the maximum distance of 0.65 miles will be used.

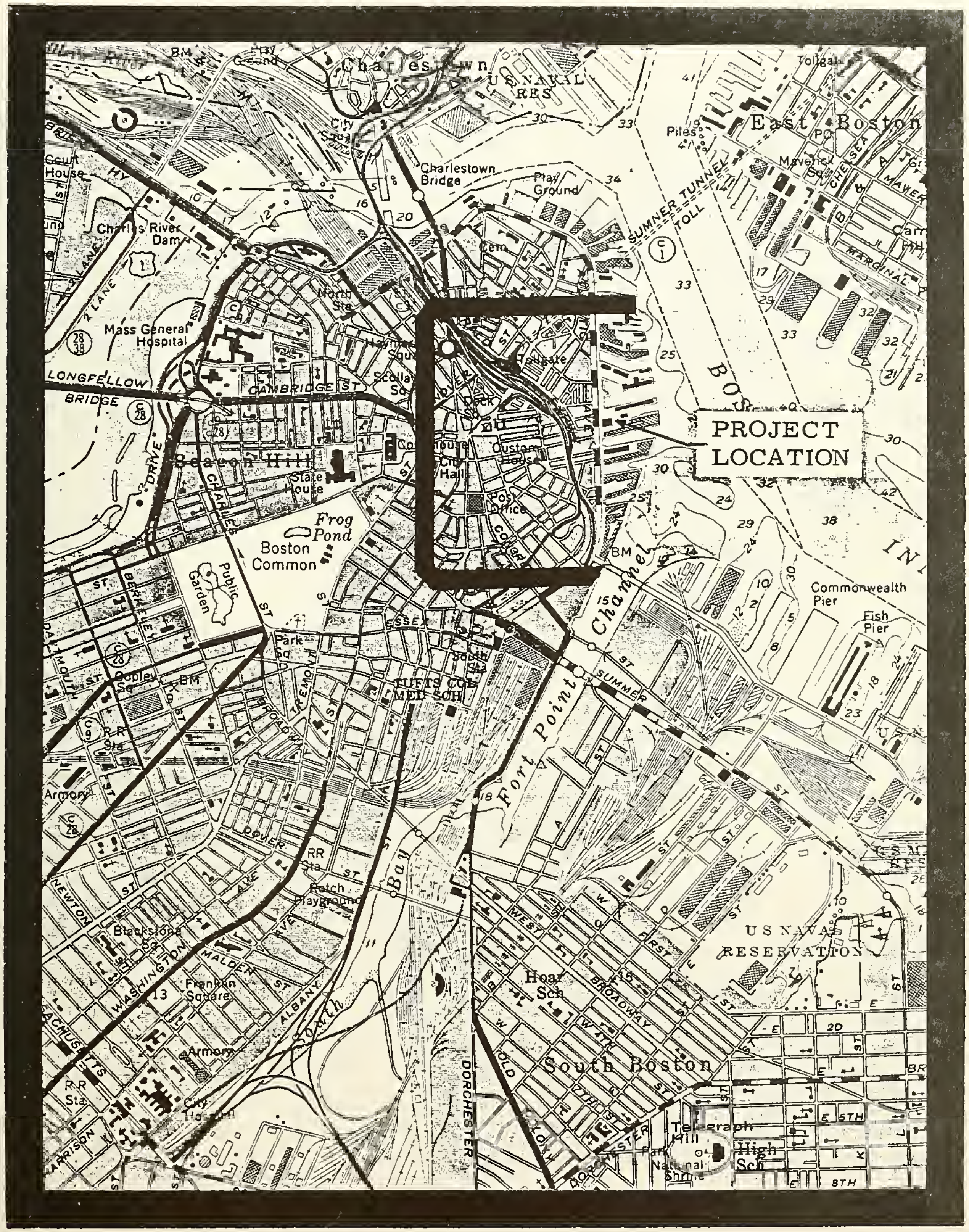

EXHIBIT B-1 Zone 4 Boston Core Area - Boston Air Quality Study

The project will generate 1152 light duty vehicle trips per average day and 25 heavy duty vehicle trips per average day. Multiplying trips times VMT within Zone 4 (0.65) the project will generate 749 VMT of light duty vehicles and 16 VMT of heavy duty vehicles, per average day within Zone 4. Table B-10 shows the additional CO generated by the project added to the forecasted 1990 CO for Zone 4. The project will add an additional 0.35% of CO to Zone 4.

TABLE B-10

Forecasted and Project Generated CO

	Forecasted 1990 (Kg/day)	Project Generated 1990 (Kg/day)
Light Duty	1,009	4
Heavy Duty	1,232	4
Total	2,241	8

SOURCE: CLM/Systems, Inc.

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